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REVIEWS

The Life and Correspondence of John Earl of St. Vincent, G.C.B. &c. &c. &c. By Capt. E. P. Brenton. 2 vols. 8vo. Colburn.

Capt. Brenton,—who is an old captain in the British naval service, and of the right sea-breed, being brother to Sir Jahleel Brenton, the Lieut.-Governor of Greenwich Hospital, and having lost a gallant brother in action,—is favourably known to the public as author of 'The Naval History of Great Britain,' and as the promoter of 'The Children's Friend Society,' a wise and valuable institution.† We are, therefore, inclined to treat his present work, 'The Life of Earl St. Vincent,' with greater allowance than its actual merits really justify; but, at the same time, we must not forget that we are sitting in "Court-martial" on the offences of naval officers, if found sinning against the "Articles of Literature." And he will remember, that even personal feeling and private interests are as nothing on such occasions, illustrated as this has been upon his own element, in the case of "Fire *v.* Boyne,"—Spithead's Reports, 1795,—when a court-martial on board 'the Glory' was not adjourned, on account of a blazing and adjoining flag-ship, although one or two at the Board were deeply interested. When Drury Lane (a 120 gun shore-vessel) was consumed, the court-martial-crew of the House of Commons certainly proposed an adjournment, but Admiral R. B. Sheridan refused, feeling that the dignity and importance of the Court would be compromised, by allowing individual mortification or suffering to take the place of the general weal. Capt. Brenton will, therefore, feel that if some of our remarks upon his work do not go like oil upon his heart, it is "not that we like Cæsar less, but that we like Rome more!"

Admiral Lord St. Vincent was, on the whole, a great, a wise, a firm, a triumphant naval commander. He was one of the first, perhaps, of our great sea heroes who brought the tactics of the politician into statesman-like use upon the waves, and who did not add thereto the slowness of tedious caution and the resources of delay and defence, to carry them into successful effect. He, at once, brought into force, wider, wiser, and ampler plans, than those adopted by his predecessors, and yet, at the same time, was one of the foremost to peril contest against a naval force of double power,—and this with unprecedented judgment and unparalleled triumph. In the battle off Cape St. Vincent, the first effective blow was struck against the combined powers of France and Spain, and all the subsequent fights were but repetitions of the same contest; until the last awful *round*, (if we may be allowed so homely, yet so British a phrase,) in which, at Trafalgar, victory was so perfectly and yet so dearly obtained.

It is impossible for us, in our limited space, to do more than cursorily run over the incidents of the life of so eminent a man as Lord St. Vincent, living, as he did, to the extreme age of eighty-eight, and having distinguished himself in such various ways at sea, in treaties with foreign states, in the English House of Commons, in the House of Peers, as First Lord of the Admiralty, and in private life. He was born on the 9th of January, 1734, O.S. His father was Solicitor to the Admiralty and Treasurer to Greenwich Hospital,—not a bad parental dockyard, out of which to be launched for naval service. He was intended for the law, but his father's coachman exclaiming, from the *bench*,—"Oh! don't be a lawyer, Master Jackey, all lawyers are rogues!"—he felt the moral effect as a school-boy, and ran away to sea. He made rapid progress, being well backed by import[illegible]ds;—in 1754 he was made a lieutenant; and [illegible]759 was at the siege and capture of Qu[illegible]ec when Wolfe was killed, and Sir Cha[illegible] made him a commander [illegible]ted, this being the last p[illegible]. In 1769 he was sent to th[illegible]and he showed great activity and ju[illegible]t on this highly responsible station. In [illegible]75 he was appointed to the *Foudroyant;* and this vessel bore a very distinguished part in Admiral Keppel's rencontre with Count d'Orvilli[illegible]ich drew on our hero, the then Cap[illegible]derable public notice. The testim[illegible]vis was effective and decided on[illegible]l Keppel, at the well known[illegible]. In 1782 our hero, in a most gal[illegible] action, took the *Pegase*, a seventy-four; and this action, and the style in which the chase was conducted, subsequently suggested the motto on the coat-of-arms and the escutcheon of Lord St. Vincent. In 1784 Sir John Jervis became a member of the House of Commons. He was made Rear-Admiral of the Blue in 1787, Vice-Admiral in 1793, and full Admiral in 1795. In the House of Commons he was honest, straightforward, and active as a representative of the interests of the navy; was opposed to the practice of repairing old and worn-out vessels, and advocated the cause of wounded and superannuated seamen. In 1793 he was sent to the Leeward Island station, where he saw much service. In 1795 he was appointed to the Mediterranean; and here he found Nelson on board of the *Agamemnon*, In the battle of St. Vincent, Trowbridge and Nelson and Collingwood shone in a conspicuous light, and the Admiral, after the victory, folded Nelson in his arms on the quarter-deck, in gratitude for his services. This led Lord St. Vincent to select him for the expedition to the Nile, at which Sir John Orde so foolishly cavilled. The Admiral was off Cadiz just after the Mutiny at the Nore, and, by his firm and yet humane conduct, repressed similar tendencies to outrage on board the fleet under his command. Much needless space is occupied respecting the jealousies of Sir John Orde; such petty personal differences should not be kept alive in a work like the present.

In 1798 and 1799 there was a feeling of annoyance existing in the minds of Nelson and St. Vincent (the latter being then resident at Gibraltar) respecting the conduct of the Ministry in the appointment of Sir Sydney Smith. This, however, passed over. In May, 1799, the Admiral heard of the French and Spanish fleet, but could not catch them,—complaining, as all our admirals have invariably done, of wanting frigates to watch. Nelson, in *his* way, once bitterly moaned at being without frigates,—"those *eyes* of the fleet." Ill health compelled Lord St. Vincent to return to England; but he again took the command of the Channel Fleet. In April 1801, however, he was in the House of Lords, and moved a vote of thanks to Nelson and those under him, w[illegible]e engaged in the battle of Copenhagen. From this period he became a leading person in the Admiralty, and did all in his power to advance the cause of economy and honesty in our dockyards, the merit and honour of our naval officers, and the comforts and interests of the common seamen. He was a temperate, and yet fearless speaker, a just minister in his department, and a humane and moral man.

The lives of our great admirals should be studied in quality of matter instead of quantity; and in spite of the tirade lavished against the late Mr. N. Collingwood, we cannot but hold out his memoirs of Lord Collingwood, and Dr. Southey's condensed, eloquent, and unaffected Life of Nelson, as masterpieces and models of naval biography. There is no tediousness of description—no insertion of insipid or mere professional letters—no confusion of dates or repetitions of details,—but the history goes on with the grandeur and simplicity of a flag-ship in full sail, and the minor records of small ropes and indifferent occurrences are not suffered to impede the great narrative. The work of Capt. Brenton, although written with sincere zeal and honesty, does not follow in the wake of his great fore-runners; for, laying too much stress upon the value of every line which fell from the pen and brain of Lord St. Vincent, he conceives that every scrap that comes to his hand is worthy of publication,—and he prints note after note, and letter after letter, with a professional profuseness, against which we, as conservators of the public time and patience, are bound to protest. Again, he gives one chapter of narrative, and does not hesitate at preceding or succeeding it with letters which repeat the information contained in such narrative. He pursues his facts as Nelson

> Pursued the recreant Gaul,
> Half around the sea-girt ball.

Capt. Brenton has struck us as resembling, or rather as having been naturally formed to resemble, the immortal Boswell. He begins his Life with sticking close to the skirts of his Briny-Johnson, and, pen in hand, teazing him into a dictation of incidents. It had been well if he had kept to this personal work, instead of getting himself and sister into the Muniment Room. A few of the incidents are quite à la Boswell, (we find that the Captain was intimate with this admirable gossip,) as, for instance, with reference to the old coachman:—

"On one occasion, when Sir George Cockburn was at Rochetts, the conversation turned on his lordship's first entrance into the navy, and the Earl repeated the story of his father's coachman. 'We should have the name of that coachman,' said Sir George. 'I cannot now recollect it,' said his lordship; then taking two or three turns from one end of the dining-room to the other, he suddenly stopped and said, '*Richard Penkeman, sir, was his name.*' *I instantly wrote it down in my memorandum-book, and think the poor man richly deserves this humble tribute of respect to his memory.*"

The old Doctor himself could not have uttered his *dicta*, or have been better recorded, than thus:—

"When talking on these painful subjects, which we often did as we 'walked the deck' in the dining-room, he would say, 'Sir, I am a dead lion;' a severe and cutting sarcasm on those who fawned on him when in power, and insulted or neglected him when he had no longer any patronage to bestow."

The Captain-editor seems to have been struck

† See Athenæum, No. 522.

with the likeness of the Admiral to Dr. Johnson, in some particulars; but, we ap[illegible] that being in himself much of a Bosw[illegible]ected a stronger likeness than actual[illegible] Sir Roger De Coverl[illegible]y to Dr. Joh[illegible] not men of a kidne[illegible]

"Lord St. V[illegible] down to dinner, or saw the cloth r[illegible] returning thanks, and I never heard [illegible] or irreligious conversation at his table. [illegible], he was a thoroughly polished gentleman in his social intercourse, though a great enemy to hypocrisy and cant. His attachments, when once formed, were immoveable, because his judgment was so clear, that he seldom erred in his choice. He read mankind with more quickness and accuracy than any one I ever knew: his eye was so keen and penetrating, that his friends used to say he looked through them. His voice was at times stentorian, and in his manner and person he often reminded me, in some respects, of Mr. Boswell's description of Dr. Johnson: he was not so tall, but stout-made, broad-chested, and had a remarkably commanding appearance. I never heard him rebuke a servant; but if they misbehaved more than once, they were discharged. In his domestic circle he was as much beloved as Sir Roger de Coverley. During my acquaintance with his lordship, which was for the last ten years of his life, I never heard him speak ill of any one (with the exception of Dr. Stoddart); and of his political opponents he always spoke with respect."

We have already stated what we think of the solid and valuable parts of Lord St. Vincent's character; but Capt. Brenton would, like Sancho, "have better bread than's made of corn." He would make out the Admiral,—who had been a runaway schoolboy, and was afterwards a strictly professional man,—a finished and polished gentleman, and one of marked gallantry to the fair sex. We at once concede to him all the sound sense and propriety of the superior man, and all the ardour, at land-hours, to the gentler sex; but the very text of the present work does not bear the Captain out in his extreme search after perfection. As bearing on one point, we find the following:—

"On this order being given out, Sir John Orde sent the two lieutenants of the Princess Royal, his own flag-ship, who had disobeyed the verbal order, on board the Ville de Paris, with an official letter from themselves, demanding to be tried by a court-martial. This Lord St. Vincent refused to grant; tore the letter in two on the quarter-deck; and added the homely adage, 'Gentlemen, the more you stir,' &c. * *

"The captain of a frigate at Gibraltar complained to Lord St. Vincent, that the governor of the garrison had withdrawn some soldiers who were serving in his ship as marines. His lordship replied, 'I should have had a better opinion of you if you had not sent me a crying letter. There are men enough to be got at Gibraltar, and you and your officers would have been much better employed in picking them up, *than lying on your backs, and roaring like so many bull calves.*"

And the gallantry is somewhat subdued by duty in the first of the following extracts, and by humour (perhaps) in the last:—

"He discouraged matrimony, until an officer had attained a sufficient rank to enable him to form a proper connexion; and I do not think he liked to have married officers in his fleet, for he said they were the first to run into port, and the last to come out of it. Still there were exceptions to this rule, even in his own mind. * *

"I remember his saying one day at the dinner-table at Rochetts, speaking of the year 1782, 'that was a memorable year for me. I committed three great faults about that time; I got knighted, I got married, and I got into parliament.'"

The latter anecdote reminds us of poor Sheridan's objection, in the last hours of his life, to an operation which was suggested by his surgeon. He declared he had undergone two, and would endure no more! On being asked what those two were, he muttered—"Sitting for his picture," and "having his hair cut!" By the way, an anecdote is told of [illegible]idan.

"Sheridan had [illegible]en very freely of an officer in the House of [illegible]mons, one who had recently been tried by a court-martial for irregular and unwarrantable acts, and was barely acquitted. He afterwards asked Lord St. Vincent's advice whether he should not call Sheridan to an account for what he had said of him in the House of Commons. 'No, sir,' said Lord St. Vincent very warmly, 'leave him alone; if you don't, he will strip the skin off your back.' This admonition was final and effectual."

The letters of his lordship are here and there sensible, brief, and acute,—sometimes pointed and severe,—and occasionally marked with decision and dignity; but they are generally too professional to be interesting to common readers; and even to naval men too *local* and *temporary* to be useful.

Some of the [illegible]ecdotes in the volumes shine out like a lig[illegible] [illegible]ht sea. We must find room for [illegible] and [illegible] picture which ought to be pain[illegible] by Wilkie, Mulready, or Leslie. How [illegible]would the fi[illegible]old admirals come out on th[illegible]

"His lordship took [illegible] delight in his beautiful seat at Rochetts, which he had ornamented in the most tasteful manner. When he was created an earl, he added the east [illegible]ing, with the great dining-room and drawing-roo[illegible]d the bed-rooms over them. He had forme[illegible] [illegible] of water at the bottom of the north [illegible]old, and had a pretty little four-oared boat on [illegible]. Four admirals met on this little lake;—the E[illegible]k, C[illegible]ths Colpoys, Matthew Scott, and Lord Ga[illegible] They proposed to take a row, and an admiral's secretary who happened to be present, was appointed coxswain to this illustrious 'crew of jolly-boat boys.' The gallant officers, it must be owned, did not give entire satisfaction to their coxswain in their manner of handling their oars, and he offered them the never-failing stimulant on such occasions if they would exert themselves: 'give way and keep stroke, my lads, and I will give you a glass of grog each when you get on shore.' The application of such encouragement, by a secretary, to four venerable flag-officers, produced a great deal of mirth, and I believe put a stop to further progress in the excursion. Such a boat's crew, whose rank so far exceeded their prowess at the oar, has probably not been seen in England, since the days of Canute the Great. * *

"Lord St. Vincent, during his anxious command, passed many sleepless hours in the night, and generally arose between two and three o'clock in the morning; his usual hour of retiring at that time being eight o'clock, P.M. One night, feeling very restless, he rang his bell, and ordered the officer of the watch to his bed-side. The officer was Lieut. Cashman, a fine rough unlettered sailor, of the true breed. 'What sort of a night, Sir?' A very fine night, my lord.' 'Nothing stirring? no strangers in sight?' 'No, my lord.' 'Nothing to do on deck?' 'No, my lord.' 'Then you may take a book, and read to me.—Any book—it don't signify—take the Admiralty Statutes.' Cashman handed out the huge quarto, and having placed the lantern with which he was furnished to visit the ship, on the table before him, sat down in his watch-coat, and read a part of those acts of parliament, out of which our naval code is formed—acts which I will venture to say he never heard of before, and, I am sure, never looked at again.

"Lord St. Vincent, in telling the story, used to say, 'Sir, I thought I should have suffocated myself, I was forced to keep my head so long under the bed-clothes to conceal my laughter at the manner in which he stumbled and hobbled through his task;' and well he might with a horn lantern and a farthing candle."

The following has the flavour of ocean-poetry—think, reader, of walking the quarter-deck of a man-of-war at half past two in the morning, and finding "the delicious odours brought off from the shores of Andalusia by the land-wind!"

"He sometimes amused himself in paying a visit to the quarter-deck, at what most people would deem very unseasonable hours. Coming up one morning at half-past two, or what is called the middle watch, he sent for Colonel Flight, the commanding officer of marines. Up came the colonel, armed at [illegible] points, supposing that some enterprise was in [illegible] 'I have sent for you,' said the chief, in tha[illegible] and gentlemanly style which he could alway[illegible] mand, 'I have sent for you, colonel, that you m[illegible] smell, for the first time in your life, the delicious odours brought off from the shores of Andalusia by the land-wind. Now, take a good sniff, and then you may go and turn in again.'"

The following, as being the last honour paid to Lord St. Vincent, must be our last extract:—

"I am now come to the last *public* event of my illustrious friend's eventful life; on this occasion I use the words of the Naval History (vol. v. p. 287, 1st edit.):—'On the 10th of August, 1822, His Majesty George the Fourth, having long entertained a desire to visit the northern part of his kingdom, embarked on board of his yacht, the Royal George, commanded by Captain the Hon. Charles Paget, lying off the Royal Hospital at Greenwich. It was on this occasion that he took leave of his oldest naval friend and faithful counsellor, the Earl of St. Vincent. The venerable peer, then in the eighty-eighth year of his age, and in the costume in which he is represented in the first volume of this work, went on board the yacht to receive his Majesty. The king, with that kindness of manner, and gentlemanly demeanour, for which he was justly celebrated, took the veteran by the arm and led him to a seat on the quarter-deck, where his Majesty placed himself beside him, and they conversed for some time, in presence of the most crowded and numerous circle of spectators which had perhaps ever met together so near the metropolis. The acclamations at this gratifying scene were heard far distant on the banks of the Thames; and the pensioners of Greenwich Hospital were the appropriate witnesses of this tribute of respect, from the greatest of monarchs to one of the most celebrated of his admirals. On the year of his coronation, his Majesty had presented the Earl with a baton of admiral of the fleet. It was conveyed to his seat at Rochetts by a special messenger, with a very gracious letter dictated by his Majesty, and written by Sir Benjamin Bloomfield. It was in consequence of having received this signal mark of favour from his sovereign, that the gallant admiral resolved to make the exertion of returning thanks in person, on the element where it was acquired. On taking leave, his Majesty presented his arm to his aged friend, who leaned on it, and the King of Great Britain was seen descending the side of his yacht to assist the Earl of St. Vincent into the boat. After this affecting attention, the yacht slipped her moorings, and being taken in tow by a steam-boat, was conveyed with rapidity down the river, amidst the applauses and congratulations of a grateful and loyal people."

With all the great qualities of mind and heart which Lord St. Vincent possessed, he was the subject of odd and dangerous prejudices, which, had he lived *beyond* the age of man, he would have overcome. And it is strange, too, that several passages of his life were at active variance with these entertained opinions. He spoke in parliament against the abolition of the slave trade (see vol. II. p. 267), and yet we find him determined to hazard war in defence of two run-away slaves (ditto, p. 354)—and with this unenlightened view with respect to slavery, he was, besides, in favour of Catholic emancipation (ditto, p. 345). Again, he was opposed to vaccination, and on the singular ground of the small-pox being intended as a wise and salutary check to excessive population (ditto p. 346), and yet he objected to clubs as favouring celibacy, clubs supplying a more humane *veto* against the "increase and multiply" trouble (ditto p. 349). Finally, he was opposed to the education of the poor, and was no friend to sailors learning to read and write, notwithstanding he was himself a good scholar, and had found the advantages of being such. All these were, however, in Lord St. Vincent, "the very errors of the time!"

There is an excellent characteristic likeness of the old Admiral prefixed to the work; and we can truly say, that if Captain Brenton had compressed all his letters* and all he had to say into the space of one of his volumes, he would have produced for the general readers of naval works a very agreeable piece of biography. As it is, we must caution our friends that there are some very heavy sands for them to avoid. Indeed we are not, ourselves, unwilling to avail ourselves of our master's permission "to return home from the station."

History of the Inductive Sciences from the Earliest to the Present Times. By the Rev. W. Whewell, M.A. &c. 3 vols. 8vo. Parker.

It is a work requiring not a little perseverance and vigour of limb, to reach the commanding pinnacles of science, which, by the continued labours of generations, have become accessible at the present day; and he who has reached those heights, needs no ordinary strength of vision to embrace fully the vast prospect which opens before him, to discern clearly the main outlines of the regions between him and the horizon, their nature and relative situations, and to be able to distinguish with unerring accuracy in any one direction, the road, which in the course of time has been trodden from the remotest plains, to the elevation on which he stands. To sketch completely so vast a panorama, would require, it might be reasonably supposed, a host of able artists. When, however, a single well-qualified individual (and Mr. Whewell's qualifications are unquestionable,) undertakes such a Herculean labour, we cannot choose but to applaud his boldness, and to hail with pleasure whatever degree of success may follow it; and if this be incomplete, we are still ready to console ourselves with the reflection, that a single mind imbued with systematic fixed opinions, will be apt in reviewing the entire circle of physical sciences, to hit upon many analogies and general truths, which would probably have escaped notice, had the same field of view been divided among many. Still, we adhere to the belief, that the 'History of Physical Science' collectively, cannot be prudently undertaken before each separate department shall have had its diligent historian. We feel convinced, that the ambition which would prompt to such a task, is almost certainly doomed to failure; and notwithstanding the respect in which we hold Mr. Whewell's reputation and abilities, we confess that the perusal of his work has tended to confirm our opinion. He sets out with the following very correct statement of the object of his work:—

"The completeness of historical view which belongs to such a design, consists," he says, "not in accumulating all the details of the cultivation of each science, but in marking clearly the larger features of its formation. The historian must endeavour to point out, how each of the important advances was made, by which the sciences have reached their present position; and when and by whom each of the valuable truths are obtained, of which the aggregate now constitutes a costly treasure."

Here, as our readers will perceive, there are three things essential to the complete execution of the historical plan: 1. Clearness in describing each grand step in the advance of science. But the desired clearness, it appears to us, can only be obtained by one who describes in every instance the phenomena which are the subject of his discourse, and furnishes his reader with all the preliminary information required for understanding him. But Mr. Whewell, who writes as if he took it for granted that his reader was thoroughly versed in science, is in the highest degree obscure to the bulk of people, and not a model of clearness to the best informed.—2. The necessity of pointing out *how* science has advanced, involves in some degree a history of the human mind in every stage of its culture, and thereby entails a difficulty not easily got the better of by one, who, like our author, avoids in general the discussion of the collateral influence exerted by other branches of knowledge on the philosophy of material nature, and jealously excludes from consideration the great heralds and establishers of the latter, we mean the mathematical sciences.—3. The inquiries, *when* and *by whom* each valuable truth was obtained, demand a degree of minute research, to which our author lays no claim, and which he appears to have considered foreign from his purpose. Yet it is of great importance in the history of philosophy to show, that the germs of brilliant discoveries have often been long in the hands of mankind, unappreciated and little thought of, till some accidental association with a fertile principle or abstract truth, developed their nature, and gave them new value. The more we apply ourselves, with antiquarian industry, to examine the history of the human mind, the more apparent it will be, that the present accumulation of science, however massive, has grown particle by particle, and has never really experienced any sudden increase.

Our author explains in the following eloquent passage, on what grounds he expects that his work will have an interest for all those well-informed persons, who look at the existing condition of human knowledge with complacency and admiration.

"The present generation finds itself the heir of a vast patrimony of science, and it must needs concern us to know the steps taken, by which these possessions were acquired, and the documents by which they are secured to us and our heirs for ever. Our species, from the time of its creation, has been travelling onwards in pursuit of truth; and now that we have reached a lofty and commanding position, with the broad light of day around us, it must be grateful to look back on the line of our past progress; to review the journey begun in early twilight amid primeval wilds; for a long time continued with slow advance and obscure prospects; and gradually and in later days followed along more open and lightsome paths, in a wide and fertile region."

The 'History of the Inductive Sciences,' that is to say, of the sciences founded chiefly on inductions or inferences, drawn from repeated experience, naturally begins with the Greeks. That lively and ingenious people quickly discovered the fundamental laws of those phenomena, which most frequently and agreeably solicit the senses. Pythagoras, for example, from comparing the sounds of smiths' hammers, and observing the relations between the sounds and the weights, derived the principles of the division of the musical chord. In astronomy the Greeks made surprising progress, and Hipparchus went as far probably as human ingenuity could have gone in his age, and with his imperfect means of observation. He devised a system of the universe afterwards improved by Ptolemy, which though fundamentally erroneous and far from exact, yet represented the motions of the heavenly bodies with an approximation to the truth close enough to be quite satisfactory to observers with the naked eye.

The laws of motion and of force, however, though the foundations of mechanical science, and the most prolific in consequences of all philosophical truths, yet, concealed in less attractive phenomena, were never detected by the Greeks, whose genius and attainments in geometry eminently fitted them, had they once gained the first step, to make a most successful career in that direction.

The progress made by the Greeks in discovering and expounding the laws of nature, was sufficient to afford matter of exultation to their admirers: and in truth, mankind ought to feel grateful to those who first opened the paths by which we have gained so advantageous an eminence. We know of no criterion by which we can determine absolutely, how far the ancients fell short of that mark in physical knowledge, which they ought to have attained; and we think, that Mr. Whewell has injudiciously chosen to consider the defects of Greek philosophy as positive vices, or at least to seek in the character of that philosophy itself the explanation of its limits. While science advances, it is pleasing to observe the necessary concatenation of its ideas, and how the discovery of one truth gives rise to that of another. The history of science is little more than a record of such observations. But when science is at fault, the historian who would explain the stoppage, has a negation to deal with, dangerous, not only on logical grounds, but also because reasonings respecting negatives usually rest on inferior evidence. Few of our readers, we dare say, will discover in the loose meteorological speculations of Herodotus, respecting the annual overflowing of the Nile, or in Aristotle's futile attempts to seize the fundamental laws of motion, any proofs of an inherent defect in Grecian intellect, or any explanation of the incompleteness of Grecian science; neither will they imagine that the activity of mind of the ancient philosophers was a cause of their errors. But it is worth while to look more narrowly at our author's summary judgment, respecting what he calls the failure of Greek philosophy.

"It will be perceived," he says, "that it is necessary, in order to obtain from facts any general truth, that we should apply to them that appropriate idea by which permanent and definite truths are established among them. In such ideas the ancients were very poor, and the stunted and deformed growth of their physical science was the result of this penury. The ideas of space and time, number and motion, they did indeed possess distinctly, and so far as these went, their science was tolerably healthy. They also caught a glimpse of the idea of a medium by which the qualities of bodies, as colours and sounds, are perceived. But the idea of substance remained barren in their hands; in speculating about elements and qualities, they went the wrong way, assuming that the properties of the compounds must resemble those of the elements which determine them; and their loose notions of contrariety never approached the form of those ideas of polarity, which in modern times regulate many parts of physics and chemistry."

It is obvious that by appropriate ideas our author means here to adumbrate mathematical reasonings, the union of which with observation changes at once empiricism into science. But what ground is there for asserting that the ancients were poor in such ideas? Does not Mr. Whewell admit that they had distinct notions of space and time, number and motion? and what other elemental considerations could they want? What, besides an actual want of progress in discovery, can be intended by the convenient phrase "penury of appropriate ideas"? We confess that the meaning of the latter half of the above cited paragraph appears to us to be lost in the parade of words. Our author seems quite aware of the unsatisfactory nature of his reasoning, and observes, "If this statement should seem to any one to be technical or arbitrary, we must refer, for the justification of it, to the Philosophy of Science, of which we hope hereafter to treat." We shall look forward with curiosity to Mr. Whewell's dissertation on appropriate ideas; but in the meantime we cannot take on credit his decisions, nor admit the authority of a history of science which does not carry with it an adequate provision of philosophy.

Although the question why physical science

* The biographer seems aware that he is under a press of too much sail in the first volume, for in the second he hawls in a reef or two, and goes under smaller type in his letters.

should at any particular time have advanced so far and no farther, is one rarely admitting of a brief answer, and demands an extent of survey incompatible with our limits, we cannot quit it altogether without making one reflection on the fate of the inductive sciences in ancient Greece. It appears to us that physics, naturally beginning in conjecture and speculation, were overlaid during their infancy, and borne down in a great measure by dialectics. The manners and social constitution of Greece held out peculiar encouragement to the cultivation of logic and rhetoric, the arts of disputation and persuasion. The Greeks were practically, though insensibly, under the influence of the dogma which Abelard upheld in a later age, namely, that logic includes all knowledge. They aimed not so much at bringing the phenomena of nature within the range of mathematical reasoning as within that of ordinary discourse. Nor is that mode of thinking yet quite exploded: there are still persons who confound copiousness of diction with fulness of knowledge, and imagine that a free and forcible habit of expression is equivalent to a complete possession of the principles of philosophy.

However imperfect may have been the cultivation of natural philosophy in the hands of the Greeks, it is certain that more than a thousand years elapsed before their speculations began to be improved on by the moderns. Our author's review of the middle ages is far more satisfactory than that of Greek antiquity, because he surveys more widely the condition of the human mind in the first-named period, and allows us to catch a glimpse of the influence of metaphysico-theology in creating mysticism and dogmatism. In the low estimate which he forms of the philosophy of the Arabs, we believe he is by no means unjust. But there are two remarks which appear to us necessary to complete his strictures on the subject: first, that the peculiar credulity implied in the mysticism of the middle ages,—the belief in astrology, alchemy, and magic, was probably due in a great measure to Arabian influence; and secondly, that, notwithstanding the unphilosophical character of their national intellect, its want of originality and independence, the Arabs, from the great extent of their sway and of their commerce, which reached in the middle ages from the Atlantic to China, and from Central Africa to the Pyrenees and Caucasus, must have done much towards the diffusion of information, and towards silently collecting materials for arts and civilization.

The history of the rise and progress of modern astronomy, from the first promulgation of the Copernican system to the present flourishing and almost perfect state of the science, is ably traced by our author. We are particularly pleased at the fairness with which he treats the eccentric but sagacious spirit of Kepler. It needed such a mind as Kepler's, not capable of being enslaved by routine, to break away from the epicyclar theory, while it still seemed capable of being brought into accordance with phenomena, and to fix upon that of elliptic orbits. Never was there a mind more open to mystical impressions than Kepler's, and yet never did an active imagination supply suggestions to a more logical and discriminating understanding. It is customary with those who are unacquainted with the history, and little endowed with the faculty, of discovery, to inveigh against hypotheses as if they were incapable of aiding us in our search for facts; whereas, in reality, hypothesis is a powerful instrument of inquiry: it is, as it were, the pontoon by which we cross the unfordable streams, and explore the inaccessible country beyond. There is sound philosophy, as well as eloquence, in the following passage:—

"The tendencies of our speculative nature, which carry us onwards in pursuit of symmetry and rule, and which thus produced the theory of Copernicus, as they produce all theories, perpetually show their vigour by overshooting their mark. They obtain something by aiming at much more; they detect the order and connexion which exist, by imagining relations of order and connexion which have no existence. Real discoveries are thus mixed with baseless assumptions, profound sagacity is combined with fanciful conjecture, not rarely or in peculiar instances, but commonly, and in most cases, probably in all, if we could read the thoughts of the discoverers as we read the books of Kepler. To try wrong guesses is apparently the only way to hit upon right ones. The character of the true philosopher is, not that he never conjectures hazardously, but that his conjectures are clearly conceived and brought into rigid contact with facts. He sees and compares distinctly the ideas and the things, the relations of his notions to each other and to phenomena. Under these conditions it is not only excusable but necessary for him to snatch at every resemblance of general rule—to try all promising features of simplicity and symmetry."

Mr. Whewell frequently returns, and always with great force of expression, to the inculcation of the important principle, that advances in science are rarely to be made without the previous exercise of some boldness and licence in guessing. He observes that—

"The discovery of new truths requires, undoubtedly, minds careful and scrupulous in examining what is suggested, but it requires no less such as are quick and fertile in suggesting. What is invention except the talent of rapidly calling before us many possibilities, and selecting the appropriate one? All who have discovered truths must have reasoned on many errors to obtain each truth; every accepted doctrine must have been one selected out of many candidates."

The arts and sciences, mixed and abstract, have a natural concurrence as they advance, and tend to aid each other in a thousand unsuspected ways. Our author's plan, unfortunately, does not permit his entering systematically on the subject of their mutual co-operation. We have nevertheless a striking illustration of it in the immediate effect on astronomy of the improvements in optical art. In 1609 Galileo constructed his telescope, and in the following year he announced the discovery of the satellites of Jupiter. The chief result of this discovery at the time, was, as Mr. Whewell justly remarks, to shake thoroughly the confidence which men had hitherto reposed in the ancients, by showing that the universe contains a variety of mechanism of which the ancients had no conception. It also furnished a compendious illustration of the Copernican system. Galileo's speculations were too bold for his age and country, and with the odium of innovation he incurred the imputation of heresy; but he was not persecuted, as is commonly stated, by the papal government; he atoned for the publication of the offensive truths by nominal confinement and the repetition of the penitential psalms. He had probably less to fear from the Pope and conclave on the score of his opinions than from the ignorant multitude. The heaviest blow aimed at him, it appears to us, in the course of the disputes to which his publications gave rise, was the applying to him, in allusion to his name (Galileo Galilei), the text of scripture, "Ye men of Galilee (viri Galilæi), why stand ye gazing up into heaven?"

Among the writers who chiefly contributed to introduce the Copernican system into England must be reckoned the celebrated Bishop Wilkins. His book entitled 'The Discovery of a New World, or a Discourse tending to prove that it is probable there may be another Habitable World in the Moon, with a Discourse concerning the possibility of a passage thither,' was well adapted to the temper of the age, and contained perhaps no more paradox than might be expected at a time when the opinions handed down from antiquity were all giving way to the increasing light of science. Wilkins wrote the above-mentioned work at the age of twenty-four. His contemporary Horrox, also a Copernican, died at the age of twenty-two, with the highest reputation as an astronomer. We here venture to start the question for the historians of the human mind, whether the appearance of very young men in the foremost ranks of science, be not a phenomenon intimately connected with the diffusion of new opinions.

The most remarkable epoch in the history of science is that constituted by the appearance of Newton. This wonderful man appears to have had all the inventiveness of Kepler, but, unlike the latter, he never published the speculative flights, wanderings, and errors which preceded his discoveries; nor did he often reveal the fruits of his researches till he had brought them to maturity. Newton's strictly mathematical modes of thinking especially fitted him for the investigations of physical astronomy. In the inductive process he had few superiors, but it was his power of deduction which made him what he was. His sublime discoveries are too well known to need our expatiating on them here: we shall merely remark, in the language of our author, "that Newton's *facts* were the *laws* of his predecessors. Copernicus established it as a law, that the sun is fixed in the centre of the system; Kepler arrived at the law that the orbits in which the planets revolve round the central luminary are elliptical; Newton, adopting those theories, and combining them with the laws of motion demonstrated by Galileo, explained all by the law of gravitation. He may be said to have completed the general enunciation of the system of the universe; little more remained for his successors than to finish its details.

Mr. Whewell, with a wise regard for the share which Newton's country has in his reputation, takes care to show, not only that solid favours and public honours were heaped on the great philosopher, but also that his doctrines were well received in England.

The merit of making known and recommending the Newtonian system in France belongs to Voltaire; but his influence operated only on the rising generation, and the doctrines of Descartes kept their ground in that country till near the middle of the last century. Of the remarkable discoveries in astronomy since Newton's time that made by Bradley, of the aberration of the fixed stars, owing to the velocity of light, and which furnishes an independent proof of the earth's motion in her orbit, deserves to be first singled out for notice. Uranus, the remotest of the planets, was added to our system by the elder Herschel. It was originally called the *Georgium Sidus*, in the vain attempt, to use our author's language, "to pay a compliment to royalty out of the products of science." There is something more curious, however, in the discovery of the four small planets interposed between Mars and Jupiter. The planet Ceres was discovered by Piazzi, on the first day of the present century; and in the following year, Olbers, while looking for Ceres, detected another planet, which he named Pallas. From the relations of these small planets to one another and to the whole planetary system, Olbers was led to believe that they were parts of a larger planet which had been broken to pieces, and that probably some other of its fragments might still be found in the same quarter of the heavens. And his suspicions were justified by the discovery of Juno in 1804 and of Vesta in 1807. The revolutions of the double stars are the phenomena which now chiefly engage the attention of astronomers.

In passing from the history of astronomy to that of acoustics, or sounds, we find a marked falling off on the part of our author. An incapability of describing vividly the phenomena which arise under our hand or eye, and triteness or immaturity of method or reflection, are more easily discovered here than in the great field of astronomy, which has been already so frequently and so thoroughly surveyed. In speaking of the pulses, or aerial undulations, which produce sounds, Mr. Whewell remarks:—

"We constantly meet with evidence of the difficulty which men have in conceiving this undulatory motion, and in separating it from a local motion of the medium as a mass. For instance, it is not easy, at first, to conceive the waters of a great river flowing constantly *down* towards the sea, while waves are rolling *up* the very same part of the stream, and while the great elevation, which makes the tide, is travelling from the sea, perhaps, with a velocity of fifty miles an hour. The motion of such a wave or elevation is distinct from any stream, and is of the nature of undulations in general. The parts of the fluid stir for a short time, and for a small distance, so as to accumulate themselves on a neighbouring part, and then retire to their former place; and this movement affects the parts in the order of their places."

He then seeks further illustration in the waves of a field of corn, when the wind blows over it. Perhaps the muscular movement of a worm, propagating annular swellings through its entire length, may give a tolerably clear exemplification of the nature of undulations. But if there be any difficulty in seizing this idea, it certainly is not likely to be diminished by fixing the attention on the complicated case of waves rolling against the stream; and still less by the example of the tide. Indeed, we question the justness of this comparison, as well as the strict accuracy of the assertion, that the tide is of the nature of undulations in general. Can any one acquainted with the Thames, or who has tasted its waters midway as they rise and fall, doubt for a moment that the tide in that river "is a local motion of the medium as a mass"? Let us, however, observe, for a moment, the appearances of waves in deep water. They are the manifestations of pulsations which move onward, though the water collectively does not. They imply an elasticity, and consequent re-action or oscillation in the fluid; by virtue of which, wherever there is one wave there must be more; succession and series are essential to undulations. The height of the waves, their velocities, and the distance between them, are connected together by fixed laws. The higher the wave the stronger the pulsation which gives rise to it, and the deeper is it felt in the fluid. Hence, there is a certain depth of water necessary for the maintenance of undulations of a given height. Now, if a wave roll on into water too shallow to maintain undulations of the series to which it belongs, it is constantly retarded from before, while it is impelled from behind, and rears itself up into a thinner and taller billow, till it falls on the shore, not a theoretical pulsation, but an actual mass of water. In a similar predicament, no doubt, are most of the coast tides throughout the earth. Propagated from the ocean tide, but, no longer supported by the principle to which they owe their origin, they must be looked upon as accumulations of water, hurried to and fro by their first impulse, and the rush to find an equilibrium. As to the question, whether the tide be of the nature of undulations in general, we shall here content ourselves with remarking, that it does not follow the general laws of succession, or the ratios of height and distance. The waves round Cape Horn obey the general law, and yet, though often equal in height to the tide, many thousands of them roll by in the course of four-and-twenty hours. We suspect that even Mr. Whewell has not escaped the confusion of ideas which the term undulation is apt to introduce when applied to the tide.

The perspicuity required in treating of philosophical matters, is too often sacrificed by our author to variety of phrase and roundness of period. Yet the most elaborate exactness can never be so tiresome as a dim and indistinct mode of expression. It is certainly inaccurate to say that "the notes of a pipe are proportional to its length"; because the things compared—viz. the note and the length of the pipe, are not commensurate. In speaking of Newton's experiments on the coloured rings visible on soap bubbles, or other thin substances, he says—"he (Newton) clearly ascertained that when the thickness of the plate was about 1-178000th of an inch, or three, five times, seven times that magnitude, there was a bright colour produced." Now, it ought to have been stated, that the measures given here are those of plates of air, and that the intervals of reflection of the Newtonian rings vary not only for different colours, but also for different media. Mr. Whewell cares so little for his unlearned readers, that, with much to study in his phraseology, he offers them also much to divine and to amend. He neither explains nor describes the subtle phenomena of the diffraction of light, and the interference of its waves, but proceeds at once to make the following comment on Dr. Young's theories:—

"The inaccuracy of his calculations consisted in his considering the external fringe of shadows to be produced by the interference of a ray *reflected* from the edge of the object, with a ray which passes clear of it; instead of supposing all the parts of the wave of light to corroborate or interfere with one another."

We acknowledge ourselves quite unable to conceive the interference of the various parts of *a wave* of light with one another; but we can conceive the interference of two waves propagated from different points; and it appears to us impossible to understand the undulatory theory of light, without having correctly seized this fundamental idea. The inaccuracy or misconception of Dr. Young above alluded to, draws a broad line between his discoveries and those of Fresnel, to whom certainly belongs the merit of observing the phenomenon of interference in its simplest and most abstract form; of measuring it with the greatest nicety, and of explaining it in the clearest and most satisfactory manner. It was enough for Young's reputation to have revived the idea of the undulations of light, which had long before occurred to Huygens, and to have firmly upheld the truth, in spite of the revilings which it drew on him. Mr. (afterwards Lord) Brougham attacked with great vehemence, in the *Edinburgh Review*, what he was pleased to call "the wild optical theory of vibrations"; and took upon himself "to recall philosophers to the strict and severe methods of investigation" of the school of Bacon. We have elsewhere made some remarks on the scientific and literary attainments of Dr. Young (see *Athenæum*, No. 449), and are glad to observe with what close coincidence of expression Mr. Whewell confirms our judgment. "Young (he says) was always looked upon as a person of marvellous variety of attainments and extent of knowledge; but during his life he hardly held that elevated place among great discoverers which posterity will probably assign him."

When our author says that "the whole subject of the colours of objects, both opaque and transparent, is still in obscurity," he appears to us to dismiss in far too summary a manner the theory of the colours of bodies, devised by Newton, and accepted by Biot and Herschel.

We had intended to make some observations on the early history of terrestrial magnetism, in confirmation of our views as to the importance of inquiring closely into the origin of discoveries; but the length to which our remarks have already extended, warns us that it is time to draw to a close, and to endeavour to pronounce at once a distinct opinion on the merits of the work before us. We find in that work abundant proofs of profound and varied knowledge, great power of language, impartiality of judgment, and even boldness of thought; but, unfortunately, the ambition of eloquence seems to have enticed the author into a style not always the most appropriate to his subject. His style is that of one whose mind is used not to originate, but to receive ideas,—not to unfold, but to grasp them: in his efforts to express himself clearly he usually becomes sententious. He leans towards transcendental truths and expressions; and while, from its want of elemental ideas and simple language, his work will be always unintelligible to the bulk of people, we fear that those who by their knowledge of physical science are capable of understanding it, may have reason to complain of its want of originality and acuteness, of breadth of view and insight into the reciprocal action of the various branches of human knowledge; or to lament that it chronicles the increase of science, without throwing much light on the history of the human mind.

Arts and Artists in England. By G. F. Waagen, Director of the Royal Gallery at Berlin. 3 vols. Murray.

[Second Notice.]

We shall, on this occasion, accompany the worthy Doctor on a hasty visit to some of the country-houses of our nobility and gentry: and first to Bowood:—

"Though the Marquis of Lansdowne had told me in London that he regretted that I should not be able to see the pictures at Bowood, because it was under repair, I would not pass so near this celebrated seat without visiting it. I therefore set out on the following morning in a single-horse carriage, here called a fly. As you approach Bowood, the ground becomes more unequal, the vegetation richer and more luxuriant. There is a long drive through the park, which is thickly wooded with lofty trees, before you reach the mansion. Being situated on a considerable eminence, which commands the county far and wide, and built in the noble and cheerful Italian style, it has a surprisingly beautiful appearance. On closer inspection, I was particularly pleased at a certain irregularity in the disposition of the considerable group of buildings, which produces a number of agreeable combinations, and makes the architecture harmonize in a picturesque manner with the surrounding scenery. The principal edifice, which, from its grand proportions, has a very stately appearance, is joined on the right side, but standing rather back, by a wing only one story high and of great length, more in the style of a villa, with a long open colonnade. On the terrace before it is an elegant flower garden, divided into regular beds. The wall of the colonnade is adorned with larger plants: myrtles, pomegranates, passion-flowers, all in full blossom. On entering the colonnade, I was surrounded by innumerable flowers, which filled the air with their fragrance. Behind this is the chapel, and in two beautiful large apartments the library. In one of them the book-cases are ornamented with elegant imitations of Greek vases, and in the other by very good bronzes, after the most celebrated antiques. On the other side of the main building, instead of a wing corresponding with this in tiresome symmetry, there is another shorter wing, adjoining the back front, before which, in the angle that it forms, is another flower-garden, but more retired and private. The prospect from the house is singularly fine. At the foot of the gently-sloping hill, a lake of considerable extent spreads out in two beautifully-winding branches, the opposite bank of which rises again, and is thickly covered, like this, with the finest timber. Further on the view is bounded by fruitful plains, closed in with a hill."

Fortunately, though the Doctor could not see all the pictures which enrich the collection at Bowood, he got a glimpse of some choice works,

which he describes and criticizes. Subsequently, he observes,—

"I accepted with the greatest pleasure the kind offer of Lady Lansdowne, to let the gardener show me the pleasure grounds. We first went into the kitchen garden, surrounded with a high wall, where everything is reared which England, that is so far advanced in the cultivation of vegetables, produces. But in the grounds extending over seventy acres of land, I learned what art, in union with a situation favoured by nature, and a mild climate, is able to effect. The advantages of the lofty and most vigorous of the native trees, such as the oak, the ash, and the beech, are here happily united with the most various trees and shrubs of southern vegetation. Cedars of Lebanon, in their solemn majesty, melancholy cypresses, laurels, cork, oaks, cheerful arbutus, and tulip trees, and many others, are joined with the most refined taste, in thick masses, in large or small independent groups, and afford the most manifold variations, of completely secluded forest solitude, of a confined view from the mysterious gloom to the remote horizon, to the richest and most various views of single parts of the garden, to the mirror of the lake, with its beautiful chain of hills, and then far into the country beyond it. I admired in particular the taste for the picturesque, with which care had been taken to form beautifully graduated middle distances, and with which the whole was again united by the velvetty lawn, which is kept in the most admirable order. The bright sunshine, now and then interrupted by shadows of passing clouds, produced the most diversified and striking effects of light and shade, so that revelling in the enjoyment of the scenery, I passed some of the happiest hours of my life. Here too I was destined to be reconciled to artificial waterfalls, to which I am otherwise a declared enemy. The fall here, rushing down in a considerable body between moss-grown rocks, and overarched by the fresh verdure of lofty trees, affords the most refreshing coolness, and made me quite forget its artificial origin. These grounds have attained such an extraordinary degree of perfection, from their having been laid out by the father of the present Marquis, who has continued to improve in the same spirit. I heard this from the gardener, who appeared to be very equal to his post, and to perform its duties *con amore*."

The Doctor now visited Corsham; and then proceeded to Bath, with which city he is in raptures:—

"Bath is the queen of all the spas in the world, for there are certainly very few which can compare with it for beauty of situation, and none for magnificence of buildings. The city arises in terraces from the banks of the Avon, which winds through the valley to the top of the Lansdowne, a pretty steep eminence, about 800 feet high. The vast masses of architecture rising one above the other have a highly picturesque and striking effect, when seen from the valley. The eye is chiefly attracted by the Royal Crescent, situated about half way up the hill, and Lansdowne Crescent, which towers above all. This is the name given in England to large masses of building, the façades of which gradually recede from the ends to the centre, so as to form a curve more or less near to a semicircle; a mode of building which is certainly very objectionable in its principle: they contain a larger or smaller number of dwellings for single families. The impression of grandeur and solidity is enhanced by the material, which is a stone found in the neighbourhood. Yet the various views from the several points of elevation, particularly Lansdowne Terrace and King's Terrace, are almost more beautiful and worth seeing. From the first you have a view over the whole rich valley, with the finely wooded eminences that rise on the other bank of the Avon, and the whole world of buildings, more or less elevated above the plain. The Gothic abbey which, with its tower, rises peacefully quite down in the valley, near the banks of the Avon, has, in every point of view, a most picturesque effect. The whole, too, has such a southern character, the air is so deliciously mild, that one fancies oneself in Italy, and cannot wonder that even the piratical Romans appreciated the advantages of this situation with the warm baths. It would therefore be incomprehensible to me, why this paradise, which unites in the most extraordinary degree the advantages of a great city with those of a romantic country residence, had I not already become acquainted with the power of the only absolute sovereign in this constitutional country, namely, *fashion*."

On his arrival in Bath, the Doctor wrote to Mr. Beckford, requesting permission to see his treasures of art:—

"Some time afterwards (he observes) the messenger brought my letter back unopened, with the information that Mr. Beckford did not receive any letters, but that I was to apply to his steward. Hereupon I have received for to-morrow two tickets, one for the house here in Bath, the other for a tower in the vicinity. * *

"The tower is of a square shape, and, without diminishing upwards, rises to the height of 140 feet above the level of Lansdowne Hill. This simple exterior gives no intimation of the elegant arrangement of the interior, still less of the noble treasures of art which it contains. To my great sorrow I found there an English family, who, though not wholly devoid of taste for the arts, did not feel it necessary to be so deliberate in their inspection as I heartily wished; so that I was driven with them through the rooms, and could not even employ the whole of the two hours which the admission ticket allowed me. Out of the great number of interesting objects, I can therefore give you an account of those only which were particularly impressed on my memory in such a hasty view. * *

"Of the older Flemish painters of landscapes and scenes of familiar life, Jan Breughel, Steinwyck, &c., there are here several of the most elegant miniature-like little pictures, in which these painters appear in the best light, because their minute execution of the details which makes their larger pictures appear hard is here quite in its place, and they are able within such narrow limits to preserve the keeping which is wanting in the others. Hence a cabinet adorned with such small pictures by Frans Franck the elder is highly elegant. Besides the pictures, these rooms are richly ornamented with select works of another kind. Of the earthenware called *majolica*, adorned with paintings and coated with varnish, the manufacture of which attained its highest perfection in the sixteenth century, in the duchy of Urbino, there are here some specimens, very distinguished by their form, pleasing composition, and careful execution of the paintings. But some enamelled vessels, particularly a large dish and a ewer, are strikingly beautiful. They are of the celebrated manufacture which, after the introduction of Italian art into France, was there carried to perfection in the sixteenth century, and adorned the most tasteful forms with the spirited compositions of Rosso, Primaticcio, and Nicolo del Abate. Among the artists who distinguished themselves in the manufacture of such vessels, Jean Limousin was especially famous. Other vessels, of agate and nephrite, attract attention by the beauty of the material. A gold vessel, of the early part of the middle ages, is very remarkable, as well as another of Chinese bronze, the colour of which is more delicate than I have ever before seen. The Chinese glass vessels and those of the middle ages are likewise remarkable for the beauty of the colours and the exquisite workmanship. I need hardly say that choice pieces of Japan and Chinese porcelain were not wanting. The furniture corresponds in magnificence and costliness with the rest. The tables are slabs of giallo and verde antico, and other rare marbles. A cabinet is adorned with fine Florentine mosaic; cedar and other expensive kinds of wood are likewise frequently employed. But what especially pleased me was, that all these things bear a due proportion in size to the moderate apartments in which they are, and are likewise so arranged that they serve richly to adorn each, without producing, as often happens by overloading and confusion, the disagreeable effect of auction-rooms. From the top of the tower, to which we gradually ascended, there is an extensive prospect, which however will bear no comparison with the delightful views of the valley of Bath. On a large plain in the vicinity the Bath races are annually held, and may be most conveniently seen from the tower in their whole extent.

"I had scarcely set down these observations on the tower, and refreshed myself with a little luncheon, when I was obliged to set out again to see Mr. Beckford's house at the appointed hour. About three o'clock, therefore, I drove, under a burning sun, up the hill, to Lansdowne Terrace, where the house forms part of the crescent. My expectation had been not a little raised by the rich harvest in the tower; and I entered with peculiar pleasure the cool apartments, with their treasures of art. Unhappily this pleasure was rather damped when I perceived the impatience with which the inexorable housekeeper endeavoured to hasten my steps. Again, therefore, I can only give you what I hastily snatched of the treasures assembled here.

"I shall never forget the dining-room, which, taken all in all, is perhaps one of the most beautiful in the world. Conceive a moderate apartment of agreeable proportions, whose walls are adorned with cabinet pictures, the noblest productions of Italian art of the time of Raphael, from the windows of which you overlook the whole paradisaical valley of the Avon, with the city of Bath, which was now steeped in sunshine. Conceive in it a company of men of genius and talent, between the number of the Graces and Muses, whose spirits are duly raised by the choicest viands, in the preparation of which the refined culinary art of our days has displayed its utmost skill, by a selection of wines, such as nature and human care can produce only on the most favoured spots of the earth, in the most favourable years, and you will agree with me that many things here meet in a culminating point, which, even singly, are calculated to rejoice the heart of man. * *

"On the whole, I came away with the conviction that Mr. Beckford unites, in a very rare degree, an immense fortune with a general and refined love of art and a highly-cultivated taste."

In justice to the Doctor, whose especial object in visiting this country was to see our various collections of pictures, and the greater part of whose work is devoted to a critical notice of them, we must, before we conclude, quote a few passages of general criticism, to satisfy our readers of his competence. The following are some observations on the drawings of the Ancient Masters:—

"The drawings of the great masters have a peculiar charm. By them, more than by works of any other kind, you are introduced into the secret laboratory of art, so that you may follow a painting from the first germs, through its various stages and changes, till it attains its perfect form. Mr. von Rumohr, with his usual refined sense of art, directs our attention to the sure mechanical taste with which these old masters always employed, in their drawings, the material which was best adapted to the object they had in view. If they wanted to sketch upon the paper a first thought just as it arose in the fancy, they usually chose the red Italian chalk, with which sketching is so easy, or the soft Italian black chalk. The breadth and softness of the strokes immediately give to such a first sketch something picturesque and massy; and, at the same time, the material allowed of further finishing, in a high degree, if it were desired. But if they wished to arrest a rapidly passing effect in nature, as it was fresh in their fancy, to seize an accidental, happy, quickly changing cast of drapery, or to mark, sharply and distinctly, the main features of some character, they preferred the pen, which allowed them to unite the easy flowing line with the sure and distinct indication of the forms. If they desired in the portrait, in a study, in the composition, to express the most delicate movement of the form, the fine play of the surfaces lying within the outlines, they generally took a rounded silver pencil. On paper covered with a mixture of white-lead and pale yellow ochre, verdigris, or some red, such a pencil marks but lightly and softly, and therefore allows of changing and improving *ad infinitum*, and by leaning harder, at length to mark decidedly among all the others, the design in favour of which the artist has determined. If they wished to decide on the main distribution of light and shade, the full camel's hair pencil dipped in sepia or Indian ink, with its elastic point, its bold fullness, led the most rapidly and surely to their object. In such drawings, the outlines of the forms are often not marked, but result only from the limits

of the shadows; when it was required, at the same time, to mark the form, the use of the pen was added. Lastly, for a more detailed marking of light and shade, coloured paper afforded them a middle tint, by the help of which they produced, with black chalk in the shadows, and white in the lights, a very delicate gradation, and a great relief of the parts. On account of these many advantages, this mode of drawing has been very commonly used. It is not till after having seen, from a great number of such drawings, in how many sides a picture has been conscientiously prepared, that we can understand the great perfection and extraordinary composition of so many pictures of the times of Raphael; and it is not till we have learnt to consider such pictures as the final result of a long series of studies of the most highly gifted minds that we are penetrated with a due sense of their great value."

We shall now conclude, with his observations on the decline of art:—

"Various hypotheses have been brought forward to account for the decline of painting, which took place throughout Europe towards the middle of the sixteenth century. In particular, we often hear the Reformation alleged as the principal cause—in my opinion, very unjustly; for if, in the countries where the Reformation was generally received, the demand for pictures must naturally have much declined, this was by no means the case, where, as in Italy, it had little or no success; at least, it might be difficult to show, up to the year 1550, any considerable influence of the Reformation on the religious feelings of the people and artists in Italy. And yet the decline of the art from 1530 to 1550 is more striking there than anywhere else. Nor did this decline by any means extend to the religious treatment of subjects only, but to the conception, and the scientific and mechanical parts of painting in general. The main ground of this change may, therefore, be rather sought in the total and general alteration of the mode of thinking, which took place from that time among the nations of Europe, in consequence of the more general diffusion of the art of printing. Greek Antiquity agrees in this with the middle ages, that intellectual education and instruction were diffused in the larger circles, chiefly through the medium of the senses, by works of art; and which also, on account of the expense and trouble of multiplying them by copies, had a very great influence on the proportionably small number of persons, to whom books were accessible as a means of acquiring knowledge. This situation of art gave artists the calm and elevating consciousness of their necessity in human society, since it was their part to provide for the gratification of so important and universal an intellectual want. Precisely because art was necessary to education and instruction, the artists had at the same time the correct feeling that they were to satisfy it, by the greatest possible perspicuity and beauty, in the treatment of the subject they had in hand, since otherwise the object would have been missed. Through this happy circumstance, art among the Greeks, as in the middle ages, rose to so extraordinary a height, and preserved for so long a time its vitality and its purity. But when, from the beginning of the sixteenth century, the imparting of knowledge by books became so infinitely easy and general, by the great diffusion of the art of printing, books soon became the principal means of all intellectual education, in the room of the arts. Hitherto the picture, as the organ of contemplation, had exercised, by means of the fancy and the sense of beauty, an indirect influence upon the understanding; henceforward language, as the organ of comprehension, acted directly upon the understanding. This kind of influence is far more sharp, decided, and extensive, but likewise more partial. With the unlimited dominion which it gradually acquired, the want of intellectual instruction by means of the senses by degrees disappeared, and the consequence was that, in the end, even the faculty of rightly understanding a work of art was also lost. But after historical painting had thus lost the position which that elevated intellectual importance had given it, it lost likewise its ancient simplicity; nay, degenerated into the rank of a handmaid of all the oblique intellectual tendencies of the times, and thus gradually became an ordinary article of luxury, a flat, unmeaning parade, with a certain boldness in its scientific and mechanical part.

"But artists have been more and more embarrassed, down to the latest times, by another circumstance. Among the Greeks, art and life went hand in hand. All the external circumstances of life, especially the costume, were of such a nature, that they fulfilled, as they were, the laws of beauty and taste, which the highest aims of the art require. The artist, therefore, was involuntarily impressed with his studies, in the living world around him, which is an immense advantage. He enjoyed the same opportunity for the study of the human figure by the public exercises in the Palæstra. If the outward forms of life had not in the middle ages this purely plastic character, yet the feeling for the picturesque found nourishment in very many respects; in the architecture, in the various costumes, in the richness and variety of the materials used for clothing. But such ugliness, deformity, and tastelessness has gradually arisen in the whole external world, that the historical painter is compelled to begin his work by total abstraction from the reality with which he is surrounded, in which he can find nothing corresponding with his object. He must create out of his fancy alone, and complete the details with the dead, wretched aid of models, and draperies artificially thrown over lay figures. If we consider what is required, under such circumstances, to create a work of art which shall produce in every part the impression of the intellectual, animated, and transitory, we ought in reason to be filled with the greatest admiration for an artist who produces such a performance, and look with indulgence on single imperfections. Besides this, the position of an historical painter with respect to the public is unhappily still essentially the same as in the last centuries; for whatever boast may be made of the increasing interest in the fine arts, among the most civilized nations of Europe, it has partly extended principally, to the other branches of painting, conversation pieces, landscapes, &c., and partly—it is with few exceptions—only just lively enough to allow art, like a game at whist, or l'ombre, a place among the various amusements of mankind. Even this kind of interest is confined to a proportionably small circle; for, not to speak of the lower classes of the people, the peasant and the mechanic, there are, in what are called the educated, one hundred to one for whom the fine arts have no existence. How infinitely remote, then, are we still from being able to call them a general intellectual want!

"If now, considered on the whole, the interest in the productions of art of *our* days appears to be still insignificant and superficial, this is still more the case with respect to the works of *earlier* periods, and becomes still weaker and more isolated when the question is to comprehend them in their historical connexion. Deeply sensible therefore, as I am, of the great dignity of the study of the history of art, whose task it is to trace the revelations of the Divine spirit in the form of art, in their peculiar shapes, among different nations, in their changes at different times, in their manifold and important influences on humanity, it often appears to me to be, in our days, as fruitless as the labour of the Danaides. Now, as every mind, not sunk in dull poring over its contemplations, must estimate the value of its existence according to the degree in which, by an efficient influence on his contemporaries, he acts upon the eternal movements of the economy of the intellectual world, the discouraging feeling often steals over me, that I have lived in vain.

"Only the experience, in spite of the universal indolence and barbarism in respect to art and its developement, of having in some, though rare cases, awakened and cherished a feeling for it in its more profound and serious acceptation, and the conviction thence arising, that the capacity for this mode of the expression of the mind, *whose peculiar character cannot be supplied by anything else*, is not wholly extinct, can afford me some consolation in such gloomy reflections."

Whether we shall be tempted to return once again to this work, must depend on circumstances.

An Essay on the Antiquity of Hindoo Medicine; including an Introductory Lecture to the Course of Materia Medica and Therapeutics, delivered in King's College. By J. F. Royle, M.D. Allen & Co.

The intellectual acquirements of man, being the result of a developement of the natural faculties under the stimulus of the natural desires, must, in all ages and countries, preserve a certain general similarity. If abstraction be made of those differences of developement which are traceable, on the one hand, to the peculiar characteristics of mind, in the several known varieties of the human species, and, on the other, to those extreme differences of climate, which, in particular latitudes, affect the food, and, through it, the power of congregating in dense bodies, and combining for social purposes,—the general circumstances of the species are so nearly alike, as to warrant the supposition, that a family or tribe, wherever accident might have placed it, would, if left to its own resources, and isolated from the rest of mankind, have pursued very nearly a similar course, in its progress from barbarism to civilization. With respect more especially to the useful arts, and to those sciences which are indispensable to the comfortable subsistence of nations, it might be predicted that like causes would everywhere produce like effects, and that the forms of civilization would,—among the Caucasian races, spread over the more temperate climates of the earth,—be everywhere nearly allied. It is not, therefore, necessary that similarity either in institutions, arts, or opinions, should always be the token of a common origin, or even of direct intercourse, among nations so circumstanced. But amidst this general identity, a diversity of detail, arising out of the almost infinite diversities of minor circumstances, geographical, local, political, and temperamental, or material, must also arise among populations widely separated; and the presence or absence of any of these will assist in determining, in the absence of historic data, whether a given institution or discovery be native or imported; and in assigning to it, in the latter case, its primeval seat.

This, however, is a point on which history and tradition have rarely left us altogether to conjectural criticism. It is almost (so to speak) within the memory of man, that the northern and western parts of Europe were colonized by emigrations, bringing with them the first elements, at least, of agriculture, arts, legislature, and philosophy; and preserving an unbroken descent of the forms and modes of civilization inherited from immemorial antiquity. Indications of a similar flux of the great tide of humanity from the east, antecedent to that which peopled Europe, lead us to conjecture that the colonizers of the west were themselves the descendants of races, whose primitive seats were not those by which we are accustomed to name them: that the Phœnicians and Egyptians were themselves emigrants from a yet further east, and derived their lights from a distant, and a more antique civilization.

Such emigrations, commenced perhaps under the pressure of adverse circumstances, and certainly attended by dangers, difficulties, and privations, must necessarily have been attended by some loss of power—by a retrogradation in the march of mind. Even in our modern colonizations, in which constant communication has been kept up with the mother country, a considerable intellectual decadence, and a protracted dependence on the arts and civilization of the original stock, have been observed. It is clear, indeed, that the Asiatics, who brought letters and laws into Greece, lost the larger and better part of their cargo by the way; and

were obliged to begin a new course of invention for themselves, which they subsequently carried far beyond the point at which the separation took place. For the recovery of lore thus lost, we know that, among other means, the most celebrated Greeks travelled to the more civilized nations of the east, and brought home the germs of information and of thought, which subsequently expanded into such luxurious vegetation on their own soil. Although, therefore, it is universally admitted that the progress of the light has been from the east, westward, yet the question arises, in what kind and degree acquirements were imported, or how far they were the unassisted product of native labour and ingenuity of the colonists.

The pride and prejudices of the Greeks led them to sink, as far as possible, the memory of their borrowings, and to arrogate to themselves as inventions, arts which were really derived from their more civilized contemporaries. The European literary world were thus but little prepared for the recent discoveries of the monuments of Egyptian antiquity, which demonstrate the close dependence of Europe upon the Asiatics, for the smallest details of its art,—for its instruments, its architecture, its sculpture, and even for the very forms of its commonest utensils. An evidence appealing thus immediately to the senses is not to be rejected; and we must acknowledge, however mortifying the avowal may be, that we are sitting upon seats, and making use of vessels moulded on those which were employed by the subjects of the early Pharaohs,—that (generally speaking) we are still doing nearly the same things in nearly the same way, as they were done many thousand years ago.

The establishment of British supremacy in the East Indies, in unfolding to us the stores of oriental learning, has offered nearly a similar testimony respecting the philosophy, the religion, and the science of the Greeks, by showing that long before the epoch of their civilization, their opinions and imputed discoveries in those departments of mind were known in Hindoostan, and recorded with such striking coincidences, both of a positive and a negative nature, as might be thought to leave no doubt that the one population is, by some means or other, a dependent on the other.

In this case, however, the appeal is not to the senses; and demonstration, to satisfy the unwilling, must be the fruit of a longer and more laborious process. Room, therefore, has been left for scepticism to take its stand upon. The remote antiquity of the Hindoostanee records has been called in question, and a theory has been broached, that Greek doctrines, instead of coming from the east, flowed in a contrary direction,—from Greece to the Hindoos, through the medium of the Arabs.

The exaggerated pretensions of the Hindoos to an antiquity at war with our interpretations of the Mosaic chronology, have, by a sort of polarity, in which one extreme of opinion begets another, led some critics into the opposite excess, of carrying the era of Hindoo science into a very modern epoch. Against such an hypothesis, it may be urged that the Egyptians were undeniably a highly civilized people long before the foundations of the Jewish nation were laid. But physiological considerations prove that the Egyptians were of a different stock from the African races, and were nearly allied to the inhabitants of India; while geographical reasons render it almost certain that they were not emigrants from the west. The probability therefore is, that they were what their physiognomy indicates—an Hindoo colony,—and that they brought with them the rudiments, at least, of their social system and arts, from a land of yet more ancient civilization. Of this theory, the distinction of castes, prevalent in Egypt, is some confirmation. On this point our author justly remarks:—

"As geologists, from observation of recent phenomena, infer what must have occurred in the primeval ages of the world, so might we, from investigating the processes of the arts as at present practised by the Hindoos, better understand the hints and descriptions in ancient authors, as well as the representations on ancient monuments, of those practised by the Egyptians. Their division, moreover, into castes, especially into the military and priesthood, as well as the similarity in their divinities, their religious belief, and that in the metempsychosis, are all points of coincidence, which we cannot believe to be accidental."

On these accounts, alone, we should have been far from sharing in the suspicion which prevails, concerning the independence and priority of Hindoo civilization; and we find in Professor Royle's volume a powerful confirmation of our own views of the subject. Before, however, we proceed, it is necessary to inform our readers that the volume under review is not exactly what its title would imply,—a mere inquiry into Hindoo medicine. The Professor of Materia Medica and Therapeutics, in his introductory lecture to his pupils, is called upon to touch on the history of drugs; and his personal experiences enable him to throw some new lights upon that department. To the learning of the East Dr. Royle is no stranger; and the subject—probably a favourite one—has carried him beyond the sphere of investigation suited to his audience and his occasion. In order, therefore, to work it out to his satisfaction, he has engrafted upon his printed lecture materials of a much wider interest, and meriting a more extensive circulation, than that of mere Materia Medica students.

This combination, though unfavourable, perhaps, to the clearness and good arrangement of the essay, is not without its advantage to the settlement of the great question at issue. Philosophical doctrines, abstractedly considered, might have travelled from Greece to India as easily as from India to Greece; and the fact of their real course must, in the absence of historical data, be deduced through long trains of inferences, liable to dispute at every step. But the case is not the same with facts in natural history—they will not bend to hypothesis. "Fleas," saith Peter Pindar, are not lobsters;" and tropical drugs are not European. Such of these as were known to the Greeks must, of necessity, have been imported, together with the knowledge of their efficacy, from Asia into Greece. The existence, then, of a school of medicine in Hindoostan prior to the age of Dioscorides, or even of Hippocrates, to the extent of this portion of knowledge, becomes matter of demonstration. If, however, it should turn out that this knowledge is part and parcel of a complete medical doctrine, and that this doctrine is indisputably of an anterior date, the inference is in favour of a corresponding relationship between the general civilization and science of the countries, in other departments.

"That there must have been independent observers in India, at a very early age of the world, we have proofs in the commerce of their manufactures and of their medicines. Many of the latter may be found described in the works of the Greeks, but we see no trace of European medicines in those of the Hindoos; and though knowledge may travel from north to south, tropical products can in our hemisphere only travel from south to north. Their employment, therefore, in the latter, proves their previous investigation by a people resident in the countries of their growth. On such grounds, therefore, I conceive we may infer the antiquity of Hindoo medicine; and while unable to get any positive dates for their works, we may yet, by circumstantial evidence, obtain an approximation which will, I think, prove its independent origin."

We cannot pretend to trace the variety of proofs which Dr. Royle produces to make out his case. For this purpose, he ransacks the history of medicine as it existed among the Persians, Arabs, and Greeks; all of whom he shows to have obtained much from the Hindoos, whose science, therefore, must have been anterior to theirs. He brings, likewise, a number of facts derived from Hindoo literature, to show not only the culture of medicine, but of philosophy, the fine and useful arts, and mathematics, at a very remote period. He further enters into the details of early commerce, and brings together numerous proofs that the Egyptians, Phœnicians, Jews, and Arabs, had constant communications with India. To detail these, would be to quote the entire volume; and we must content ourselves with a few extracts from the more curious and striking pages.

The earliest Hindoo works on medicine extant are contained in the Ayur Veda; and are consequently considered by the Hindoos as the work of Brahma. This, at least, betokens a remote antiquity; but, according to the Ayur Veda, medicine was then divided into distinct branches, and the art highly cultivated. With respect to the date of these writings, we are left to conjecture and inference; but the remote existence of the Sanscrit as a polished language is now admitted; and the writings in question were translated, from the Sanscrit into the Tamul tongue before the Christian era. Again, as Buddhism, which is considered a reform of Brahmanism, dates from the sixth century before Christ, and the Vedas contain no traces of Buddhism, those books can scarcely be of later date than the prevalence of that reformation; and though the fourth, which treats of medicine, is known to be posterior to the rest, yet all contain notices of a flourishing state of the sciences.

"Sir W. Jones says, that the 'Ayur Veda, supposed to be the work of a celestial physician, is almost entirely lost:' 'but I have myself met with curious fragments of that primeval work; and in the Veda itself I found, with astonishment, an entire Upanishad on the internal parts of the human body; with an enumeration of the nerves, veins, and arteries; a description of the heart, spleen, and liver, and various disquisitions on the formation and growth of the fœtus.' (Jones, Disc. xi.) 'Physic appears in these regions to have been cultivated from time immemorial,' 'as well as chemistry, on which we may hope to find useful disquisitions in Sanscrit, since the old Hindoos unquestionably applied themselves to that enchanting study.' (Jones Disc. x.)"

In investigating the antiquity of Hindoostanee medicine, Dr. Royle has examined the writings of the Arabs, and endeavours, not without much plausibility, to prove, not only that the Arabs borrowed much of their medicine, but of their chemical science also, from Hindoo sources. Of the contents of the Hindoo works on medicine he observes, that "no complete work, and few passages, have yet been translated into any European language." Professor Wilson has given a glimpse of the works of Charak and Susruta. Dr. Heyne, in his tracts on India, says, that most Hindoo works of note have been translated from the Sanscrit into the modern dialects of India. Of these, we have the first section of the Kalpastanum, and an abstract of a work translated by Dr. Heyne. Dr. Ainslie, in his Materia Medica, gives passages from an author named in the Ramayana (the oldest work, probably, in the profane literature of the Hindoos). Lately also, Csoma de Koros, an Hungarian traveller, has published, in English, a synopsis of a Tibetan work on medicine, derived from the Sanscrit of the eighth century.

"From such sources, I find that the Hindoos, like ancient, as well as modern practitioners, everywhere, except in large towns, practised all branches of the

profession. In their works, therefore, we find notices in all departments of medicine; instances of which I have not time to adduce; but it may be sufficient to mention, that, with much fanciful Anatomy, imaginative Physiology, and absurd attention to numbers, there are accounts of Poisons and their Antidotes; mention of the Diseases of Women and Children; with valuable notices relating to Surgery, Medicine, Materia Medica, and Pharmacy.

"It will no doubt excite surprise, to find among the great operations of these ancient surgeons, those of Lithotomy and the extraction of the Fœtus ex utero; and that no less than 127 surgical instruments are described in their works. * *

"With respect to Medicine, there are descriptions of the number, the origin and seat of diseases, with their symptoms, diagnosis, and prognosis; accompanied, of course, with copious instructions respecting diet and treatment. * *

"I regret that I have no such favourable passages to adduce in favour of the study of Materia Medica: but, as the physician is unable to effect much good without the means it affords him, we have what is equally valuable, a long list of useful medicines, of which many continue to be employed in modern as in very ancient times. * * The Hindoo sages have observed the efficacy of blood-letting, cupping, and leeches, with drastic and mild purgatives, emetics, diaphoretics, baths, and aspersions of water. Some of the acrid poisons, even, were used at this early period, with, as we have seen, arsenic and mercurial preparations, as well as stimulants, sedatives, and narcotics. With respect to their prescriptions and works, Professor Wilson makes the valuable remark, that, in proportion as the work is more modern, the compounds become more extravagant, and assume a more important place in the practice."

That many Indian drugs formed articles of commerce in ancient times, we know from the accounts of Greek and Roman writers. These could have been only made known to the west, through the instrumentality of the Egyptians and Persians. That the Egyptians and Persians did trade with India by sea or by land, is abundantly proved by Dr. Royle's references to history; that so few traces of the science of a people furnishing such rare and valuable articles, appear in European writers, is thus explained:

"Considerable as appears to have been Hindoo medicine, and extensive as no doubt has been the influence of its Materia Medica, the absence of all record of the former in the annals of medicine, can only be accounted for from the geographical position of India with respect to Europe, and the total unacquaintance with the refined language of the former, which prevailed in the latter even to our own day. For when the name of even the most celebrated Hindoo writer presented itself before a modern author writing expressly on the subject, it is passed over without comment or examination."

Dr. Royle's search after notices of Indian drugs in the Greek and Latin authors forms an instructive branch of his essay. Respecting the journies of Thales and Pythagoras into Greece, previous to which medicine is described as being only an empirical art, our author refers these events to a period of intellectual excitement, which has left its traces in the history of many civilized nations:—

"For the Persian Zoroaster is thought to have been born in the sixth century before the Christian era, and to have flourished in the reign of Darius Hystaspes. Confucius flourished in China in the same age, having been born, according to the best authorities, 550 B.C. While Buddhism arose from the midst of Brahmanism in the plains of N. W. India (B.C. 635), 'in an age and country celebrated for its literature,' where its doctrine and discipline became fixed by means of Sanscrit, one of the most perfect languages in the world. * *

"Thales and Pythagoras are the Grecian philosophers who first visited Egypt. * * Democritus is stated to have expended his patrimony in travelling, and to have been attached to medicine, as well as to other sciences. * * He is mentioned by Pliny as also writing on the magical properties of plants; but among these, is an account of the 'herbam æschynomenem, quoniam appropinquante manu folia contrahunt.' This is no doubt the sensitive plant, which he could only have seen in southern latitudes."

In connexion with Pythagoras, we find another passage on the mathematical attainments of the Hindoos, of curious import:—

"The treatises on geometry are pronounced to be inferior in excellence to those on algebra; but they contain the celebrated proposition, that the square on the hypothenuse of a right-angled triangle, is equal to the squares on the sides containing the right angle; and others which form part of the system of modern geometry. Among these, that which discovers the area of a triangle when its three sides are known, is remarkable, as it does not appear to have been known to the ancient Greeks."

But we must conclude. We have been tempted to extend our notice of this work, from the circumstance that its medical character may cause it to be overlooked by many of our readers, if unbacked by such a recommendation.

List of New Books.—Elisha, by Dr. Krummacher, new edit., 12mo. 6s. cl.—Edwin and Mary, by Lady Tuite, 12mo. 5s. cl.—Bentham's Works, by Dr. Bowring, Part II. royal 8vo. 9s. cl.—The Bible Gleaner, by Mrs. T. Maddox, 18mo. 1s. 6d. swd.—Wilson's Fugitive Sketches drawn on Stone, imp. folio, 2l. 12s. 6d. cl.—Davies's Appeal on Behalf of Young Men, 12mo. 4s. 6d. cl.—Hare's Sermons, 2 vols. 12mo. new edit. 16s. cl.—Blunt's Seven Churches of Asia, 12mo. 5s. 6d. cl.—Convent Tales, by a Protestant Lady, post 8vo. 8s. cl.—Vaughan's State of Religious Parties in England, 12mo. 3s. cl.—Heinroth on Education and Self-Formation, post 8vo. 7s. 6d. cl.—Hargrave's Reasons for Retiring from the Established Church, 12mo. 2s. 6d. cl.—The Testimony of St. Cyprian against Rome, by the Rev. G. A. Poole, 8vo. 8s. 6d. bds.—The River and the Desert, by Miss Pardoe, 2 vols. post 8vo. 18s. bds.—The Covenanters and other Poems, by H. Brown, 12mo. 3s. 6d. cl.—Luther's Commentary on the Epistle to the Galatians, new edit. 8vo. 10s. 6d. bds.—Finney's Lectures on the Revivals of Religion, post 8vo. 6s. cl.—Sermons on important Subjects, by the late Rev. J. C. Ewing, 12mo. 5s. cl.—The Nature and Prospects of the Adamite Race, 8vo. 7s. 6d. cl.—Dick on Diet and Regimen, post 8vo. 6s. 6d. cl.—The Kindness of the Deity Exhibited, 32mo. 1s. 6d. cl.—Seeds of Knowledge, by Miss Corner, square, 1s. 6d. bds.—The Shipwrecked Orphans, by John Ireland, square, 1s. 6d. bds.—Scenes from Real Life, by Mrs. Sherwood, square, 1s. 6d. bds.—First and Second Lessons for the Nursery, square, 1s. 6d. bds.—Martin's Moral and Intellectual School Book, 12mo. 4s. cl.—Alcock's Medical Notes, &c., 8vo. 5s. bds.—Tom Telescope's Newtonian Philosophy, new edit. square, 4s. 6d. cl.—Watts's Scripture History, new edit. 12mo. 4s. bd.—Lewis's Address on Education, 8vo. 1s. 6d. swd.—The Hand-Book of Phrenology, 32mo. 1s. swd.—Crosby's Builder's Price-Book, 1838, 5s. swd.—Science of Botany, by H. Reed, 18mo. 1s. swd.

OUR WEEKLY GOSSIP.

We were admitted on Tuesday last to view the drawings of the students of the School of Design, established a few months since by Government, and were highly gratified. The drawings, generally, did great credit equally to the masters and the pupils; and it was impossible not to feel the immense influence which such a system, if persevered in, must have ultimately on the manufactures of the country. It appeared, from inquiry, that the majority of the students were the sons of respectable tradesmen. We confess that we would willingly have found among them a few youths from a humbler class—the sons of those horny-handed mechanics, whose fate it will be to execute what others design; but these will probably follow, when success shall enable the Council to reduce the monthly payment. Still here is a great point gained—skill of hand in a mere tradesman may be of more or less value to him, according to circumstances; but skill of eye—an eye accustomed to, and familiar with, the finest forms of ancient and modern art, must have important consequences;—such a man stands, as it were, on neutral ground, between the manufacturer and the purchaser, and may influence both. Among the drawings which appeared to us to deserve especial mention, were those of Brett, Ingham, Wild, Bond, and Winsor,—the last is a deaf and dumb youth; and a model by him in plaster, from an antique frieze, was in a fine bold style, and full of promise. We were pleased, too, to see the active personal interest taken in the success of the experiment by some of the directors, as proved by the premiums offered by them. The nature of the prizes to be contended for, shows so well the character and objects of the school, that we requested permission to copy the list, and no doubt it will be read with interest by many persons:—

A prize of Five Guineas for the best designs in Ribbons, three in number, in colours: offered by the Right Hon. C. Poulett Thomson, M.P., President of the Board of Trade.

A prize of Ten Guineas, to be called the Huskisson Prize, for the best design for a pattern for Silk Hangings, to consist of foliage or other ornament, in three colours: the design to be accompanied by a draft or squared paper, prepared for the Jacquard-loom: offered, we believe, by Mrs. Huskisson.

A prize of Ten Guineas for the best design for Ladies' Dresses in Silk: offered by James Morrison, Esq.

A prize of Five Guineas for the best design for a Necklace and Pendant, partly open setting and gold, with pearls and stones: offered by J. G. Bridge, Esq.

A prize of Five Guineas for the best design for a Frieze, to be drawn in pencil, chalk, or colour; to have a border of three or more mouldings, all enriched, to be returned at one end: offered by C. R. Cockerell, Esq. R.A.

A prize of Five Guineas for the best design for a Teacup, Coffeecup and Cover, and Saucer, to be in colours: offered by Ald. W. T. Copeland, M.P.

A prize of Five Guineas for the best design for a Power-loom Cambric, in light or dark work: offered by —— Fort, Esq. M.P.

A prize of £5. for the best design for a Carpet of various colours, for a drawing-room: offered by H. T. Hope, Esq. M.P.

A prize of £5. for the best design for a Paper for a Room, in at least three tones or colours, with a border for the top and bottom: offered by H. T. Hope, Esq. M.P.

A prize of Five Guineas for the best design for a Drawing-room Chandelier, of at least twenty-four lights, in any style that may be thought best calculated for effect, and for facility of execution, in crystal-glass-ware: offered by Apsley Pellatt, Esq.

A prize of Five Guineas for the best design for a light Chintz Muslin dress: offered by James Thomson, Esq., of Clithero.

The continental journals are still filled with accounts of the great earthquake, which was felt throughout the entire length of Europe, from the Black Sea to Cherbourg, on the 23rd and 25th of January last. From a hasty glance at those accounts, we should be led to conclude, that the shock was felt in France about seven hours later than in southern Russia; and that the vibration was communicated by the rocky structure of the Alps. The earthquake was not, we believe, felt in any place north of the Danube, and west of Transylvania. We need hardly recommend the geologists to endeavour to collect precise accounts of these widely-witnessed phenomena, while they are still fresh in the observers' memories.

The French government are about to send a scientific expedition to the Scandinavian peninsula and Spitzbergen, the leader of which is to be M. Gaimard, the naturalist, who conducted the recent expedition to Iceland. It is said that Louis Philippe, who travelled through Sweden and Norway, Lapland and Finland in 1795, takes a particular interest in the expedition, and has himself pointed out the objects most worthy of attention. The Swedish government lends its cordial assistance, and a body of Norwegian and Swedish naturalists and engineers are to join the French *savans*. Some of the party are to winter in Hammerfest, near North Cape. The vessel destined for Spitzbergen is to attempt the passage northwards to the North Pole. Thus, as M. d'Urville, who sailed last year in command of the *Zelée* and *Astrolabe*, had orders to approach the south pole as near as possible, the French government will have to boast that its efforts in behalf of science extended at the same time from pole to pole.

The German traveller, Albo von Katte, who, from Arabia, passed over to Abyssinia in July 1836, returned in December last to Cairo, where he is engaged in writing the history of his adventures. He is said to be a man of some science, and to have been well provided with instruments: yet, as we know that he was soon robbed of these, that he was a long time afflicted with ophthalmia, and never penetrated beyond Tigré, we do not expect to find much that is valuable or novel in his narrative. His losses and sufferings, however, have by no means damped his courage. Incited, we are told, by the accounts which he has received from the black merchants and pilgrims in Egypt and Nubia, respecting the facility of penetrating into the heart of Africa from the east, by the way of Darfûr, Beghirmé, Bornú, &c. to Timbuctú, he has determined to make the attempt. There is no doubt that the portion of this route, which was once most formidable, is now become safe and easy under the sway of Mohammed Ali.

Accounts from Servia announce, that a monk of the order of St. Basil has just discovered a collection of historical manuscripts in the monastery of Monte-Negro. Being ordered to inspect the vaults which extend in different directions under the church

of the convent, he found that the numerous coffins deposited there were all decayed or broken to pieces, except one, which remained entire. When this report was received by the superior, he consulted with his brethren, and it was resolved to open the coffin. This was done with due solemnity, and their astonishment may be imagined, when it was found that this coffin, which was of lead, was filled with bundles of papers, in a very good state of preservation, each wrapped up in oiled cloth. On a general examination, they were discovered to be chronicles, written in the different Sclavonian languages, and to extend from the first invasion by the Sclavonians, of the countries watered by the Danube, to the year 1721. These chronicles contain the history of Wallachia, Moldavia, Servia, and Bulgaria, and numerous details relative to the crusades, the empire of the East, the wars of Poland and Hungary against the Ottomans; the whole written and composed by eye-witnesses. Prince Milosch has purchased this precious collection of manuscripts for 5000 ducats, and has commissioned his private secretary, Mr. Wouk Woukanowitch, and twenty-four learned Servians, immediately to examine, and to class them according to their dates; and these documents will be forthwith published at the expense of the Prince.

If politics, rather than literature or art, have occupied all thoughts during the past ten days in London, it has not been so in Paris. The most interesting event there,—one, indeed, of the most notable events of the year,—has been the discourse in honour to the memory of M. Reinhart, delivered at the *Académie des Sciences Morales et Politiques*, by that grandfather of modern diplomatists, Prince Talleyrand. Whether considered as to matter or manner, this *éloge* is at once equally characteristic and curious: to enter into any examination of it, after the fashion of the journalists of Paris, would be beyond our province; but it is impossible not to note the last appearance, in public, of one of the most remarkable men of his remarkable century.

Painting and music, too, have each of them made a grand demonstration in Paris since the month came in: the former, by the opening of the annual Exhibition at the Louvre, which, however, does not appear to be so excellent as usual; and some of the principal names of modern French artists are absent from its catalogue. It is observed by the critics, that many of the pictures—and those the best—are on religious subjects; and works by M. Mottez, M. Ziegler, M. Bremond, are cited as being far superior of their kind to the great historical pictures by M. E. Deveria and others. Is it that the latter have been exhausted by completing their furniture commissions for Versailles? or are we right in noting a disposition to turn towards the ancient objects of Christian faith and homage, as a sign of "the progress of the movement" in modern France? The 'Cleopatra,' by M. Gigoux, and the 'Medea,' by M. Delaroche, are also mentioned with high praise; and M. Winterhalter's portrait of the Prince de Wagram is described as the best of the portraits. There seems to be no sculpture of great originality and excellence.—The Grand Opera, in its turn, has been producing a musical novelty on the scale peculiar to that establishment. This is MM. Scribe and Halevy's 'Guido et Ginevra,' a tale of the plague of Florence. That some such subject would next be chosen, we foresaw with the clear eye of prophecy, when the 'St. Bartélemy' was found to give fair occasion for *tableaux* and trios. The *libretto* seems so full of incident and situation, that we apprehend it will follow the fate of 'La Juive,' and be presently reproduced on the English boards, with the simple omission of the music. M. Halevy, however, has had a great success:—this was prophesied as inevitable by those who have no faith in his powers, as well as by those who think him the best French composer of serious opera; for, the Rue Lepelletier not being quite an Eden of guilelessness, interest and a host of *claqueurs* can always carry the *night* there on a first representation. Many pieces of music, however, are particularized as excellent. The principal parts were sustained by Mesdames Dorus-Gras and Stoltz; MM. Duprez and Levasseur.

The *Musical World* tells us that Spontini is coming to England during the season with the score of his 'Agnes von Hohenstauffen,' and a tributary cantata to our young Queen.—*Credat*—we have no musical establishment at which one of Spontini's great works have any chance of sufficient rehearsal or satisfactory performance. A rumour, indeed, has been gathering, during the past week, of a German opera, with Schroeder for *prima donna;* and the two rumours together have some coherence and probability. Meanwhile, the German papers inform us that Miss Clara Novello has excited a greater sensation in Berlin than has been produced there by any vocalist since Sontag. They dwell on the matchless beauty of her voice.

Mr. Cullimore, in a paper lately read at the Royal Society of Literature, adverted to a medallion, designed and executed by Mr. Bonomi, in the incavo-relievo style of the Egyptian sculptures, and intended to suggest a method of perpetuating the likeness of her Majesty on the national coinage, in a more effectual manner, than the present basso-relievo style admits of. We have since received a copy of the medallion, and certainly, though we do not presume to offer an opinion on the merits of the subject, it appears to us worthy consideration. Independent of other and obvious advantages, it is manifest that a medal thus formed cannot lose its outline until the whole of the surface of the coin is worn away.

We are requested to announce a second book of 'Ichthyosauri and Plesiosauri' in preparation, by Mr. Hawkins: the work is to be illustrated by nearly thirty plates, and will appear in the almost extinct size of imperial folio. A forthcoming book or two in Mr. Bentley's list may also be noticed: Memoirs of Admiral Sir Sidney Smith; and of Jack Bannister, by Mr. Adolphus; 'Memoirs of the Musical Drama,' by Mr. Hogarth; and last, but not least, a pleasant novel, to be christened 'Births, Deaths, and Marriages,' by Mr. Theodore Hook;—and it is said that Mrs. Jameson, who has returned within the last few days from America, is busily engaged in putting in order her notes upon a Canadian winter, and a visit paid by her to one of the Indian tribes.

And now in conclusion, a word about Dr. Arnott's stove. It is beyond our power to answer specifically a twentieth part of the questions asked of us; and if we had the leisure we are not sure that we possess the requisite knowledge. Our correspondents must excuse us for saying that the majority of them seem to know nothing even of the principle on which the stove is constructed, and not to have taken the most obvious means of informing themselves; our advice then is briefly for them to consult the Doctor, that is, to read his pamphlet, to study it *thoroughly*. As to naming the best maker, it were invidious; all those persons mentioned by Dr. Arnott (see *Athen.* No. 536,) are highly respectable, and no doubt others equally so will shortly be in the field; and as to the most approved form of the heat regulator, it would be absurd, with our necessarily limited experience, to offer an opinion, when even the manufacturers are not agreed on the subject. We incline to the thermometer, and are so well satisfied with the stove generally, that we have had a second put up at our office in Wellington Street, and on the principle we most approve of. Those who are interested can see it, and judge for themselves.

SCIENTIFIC AND LITERARY

ROYAL ASIATIC SOCIETY.

March 3.—The Director of the Society in the chair.—Among the donations laid upon the table of the Society were several volumes in the Servian language, comprising the body of the literature of that people. In presenting these works, Mr. David Urquhart, the donor, observed that they were mostly written by Dositheus Obradovitch, who may be called the creator of Servian literature. That gentleman had travelled many years ago into England; and had been introduced to several eminent characters in this country, among others both to Mr. Pitt and Mr. Fox. His productions were chiefly ethical and grammatical. Mr. Urquhart stated that the example given by Obradovitch had been followed up, and the Servians now began to possess a respectable literature; they published a weekly paper, and had translated the Code Napoleon into their own language, with modifications suited to their own customs. The population of Servia was about a million. They had struggled hard for liberty against the power of Turkey for four years, and at the end found themselves a free people, with half a million sterling in their Treasury. Besides the population of Servia, six or seven millions of people, subject to Austria and Turkey, speak the same language, and make use of the same books. It is remarkable that the Servians are the only people of Sclavonic race that inhabit a mountainous country, and that they have never had serfage among them, as the Russians, Poles, and other bodies of the same race, who all lived in the plains, have had. Mr. Urquhart also called the attention of the meeting to a small collection of moral tales, by Anna Obrenovitch, a young and beautiful princess of Servia, who had commissioned him to present to the Society, this little work, in which she had, with her own hand, written her name as the donor of the book.

Professor Royle read to the Society a paper on some astringent substances which are abundant in India, and which might be worthy the attention of persons in England. As a preliminary, it would be necessary that these substances, to be valuable as articles of commerce, should be cheap, compact, and abundant. The Dhak or Palasa (*Butea frondosa*) was found useful as wood for fuel; its flowers produced a dye, and from its stem a powerfully astringent gum exuded, which was used in the arts and in medicine. Dr. Roxburgh had mentioned the tree, and had observed that the lac insect was often found upon its branches, so that the same workmen who gathered the productions of the tree might also collect the lac. Dr. Roxburgh states that a red juice, hardening into a gum, exudes from fissures in the *Butea frondosa superba*, which is strongly and simply astringent. This substance Professor Royle said was used in the North of India, and was called by the natives *Kumur Kus*, also *Dhak-kegond*, and *Kueni*. It had been lately brought to England by Mr. Bechell, with the idea of trying to make it useful as an article of commerce. The Professor stated that in his opinion this was not a new importation into Europe; he had sent some of it to Mr. Pereira, who recognised it as being the *Gummi rubrum astringens* of the old druggists. Specimens of both these substances were laid upon the table, and they were seen to be identical. M. Guibourt, of Paris, to whom some of it had been sent, states his opinion in his work on drugs, that it is the original *Kino*, which had entirely disappeared from commerce, and was once so much valued as to be sold for nearly a guinea a pound. This must, however, remain doubtful, as none of the original *Kino*, introduced by Dr. Fothergill, was now known to exist, though there was strong presumption of the fact by the resemblance of the Hindu word *Kuenee* and the European name *Kino*. There can be no doubt that it was at least one of the earliest substitutes for *Kino*, and had there existed a museum for Indian useful products it would most probably have continued to this day, and have been imported extensively, instead of being replaced by substitutes from New Holland, Jamaica, and other parts of the world.

A curious MS., written on the bark of a tree, was laid upon the table for the inspection of the meeting. Its length when stretched out was eleven feet, and it was folded like a fan, backwards and forwards, into little squares. It was in the language of the Battas, an extraordinary people, occupying a considerable portion of the large island of Sumatra; they had been ascertained to be cannibals. The MS. on the table came into the possession of the governor of Fort Marlboro', in Sumatra, in the year 1777, in a curious way. An Indian had been picked up at sea, in an exhausted state, and brought to Bencoolen, where he was taken care of for some time and then set at liberty. About a year afterwards a captain of a vessel brought a book to the governor of Fort Marlboro' from some Indians on the coast, who gave him to understand that it was a present from their

chief to the governor, as a token of gratitude for not having eaten him. Some notes were read to the meeting, chiefly relating to the Batta mode of writing, about which there had been some controversy; some writers contending that the characters were written from bottom to top, in perpendicular lines, others that it was written like English, from left to right, but that the bottom line was written first, and the others in succession. It appeared most probable that both the two first modes might be used; the first when the Battas engrave or scratch their letters, and the second when they write with ink, because writing upwards would necessarily cause blotting, as the hand must rest upon what had been written. In some of their books were figures of men so drawn that they stood upright only when the book was held with the lines in a perpendicular direction; from this it might be safely inferred, that, however the Batta books may be written, they should be read perpendicularly. The third opinion could not be maintained, to say nothing of the awkwardness of writing the bottom line first and the other over it, it is sufficient to look at a book to see clearly that if it had been upside down when written upon, the lines would run from right to left, and not from left to right. Four other Batta books, from the museum of the East India Company, were also exhibited, consisting of charms against evil spirits, medical prescriptions, &c. The Battas claim to be the original inhabitants of Sumatra, which is probably the case, though their traditions are very imperfect, and evidently borrowed from the Malays. Their literature is copious, though the little we have of it is confined to omens, charms for various diseases, exorcisms against evil spirits, and absurd fables; but it is a singular fact that a people sufficiently refined to have a literature of any sort should be still so debased as to be addicted to cannibalism, a practice so savage as to be adopted only by the very few of the most ferocious and isolated tribes on the globe, and even by those few to be carried on in secret or only when excited by war or revenge. The Battas, on the contrary, appear to be a peaceable, intelligent, and industrious race of men, and merit more attention from Europeans than seems to have been bestowed upon them.

Sir Charles Edward Grey, Lieut.-Colonel Shiel, and Meerza Salih were elected Members.

SOCIETY OF ANTIQUARIES.

March 1.—Mr. Hallam, V.P., in the chair.—Two drawings were exhibited of La Chapelle de Notre Dame des Pas, in the island of Jersey, destroyed in the year 1814, by order of the Board of Ordnance. The Secretary continued the reading of Mr. Holmes's communication of Sir William Beecher's tracts.

March 7.—Mr. Amyot, Treasurer, in the chair.—Mr. Green exhibited a drawing of a chimney-piece in a house in Bedfordshire, of the time of James I., with a coat of arms (Alston impaling Temple), and other elaborate ornaments of the period. The Rev. John Buller, in a letter to Sir Henry Ellis, communicated a description of some Druidical circles in the parish of St. Just, Cornwall, overlooked by Borlase in his antiquities of that county. The conclusion of the paper was postponed to a future evening.

HORTICULTURAL SOCIETY.

March 6.—An abstract of the meteorological observations recorded at the Gardens of the Society during the past year, was read; and, from the notes furnished by Mr. K. Thompson, who has the charge of the instruments, it was stated, that the mean temperature of 1837 was rather more than 2 degrees colder than usual, compared with the means of the ten preceding years, notwithstanding the absence of severe weather in January, and the extraordinary mildness of December. The amount of rain was 19.88 inches, being about four inches below the average quantity. Silver Knightian medals were bestowed for the *Euphorbia splendens*, exhibited by the gardener of A. Palmer, Esq.; for the *Epacris pungens*, exhibited by the gardener of Sir Edmund Antrobus, Bart., F.H.S.; and for the *Ardisia paniculata*, from Mrs. Lawrence. Silver Banksian medals were also obtained by Mr. Pratt, gardener to William Harrison, Esq., for his plants of Epacris; by Messrs. Chandler, for their seedling *Epacris impressa*, and by Mrs. Marryat, for *Proteas*. Cuttings of plums and cherries were distributed to the Fellows present.

The meteorological observations, since the meeting of the Society on the 20th of February, were as follows:—

Barom.—Highest, March 5.....29.813
Lowest, Feb. 25.....28.792
Therm.—Highest, Feb. 20.....53° Fahr.
Lowest, March 3.....26° Fahr.
Total amount of rain, 1.85 inch.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Feb. 12.—P. F. Robinson, V.P. in the chair.—The Earl of Liverpool was elected an Honorary Fellow.

The following gentlemen were elected Associates:—F. H. Groves, S. S. T. Carlow, W. A. Buckley. Donations were then announced. After which, the following papers were read:—The conclusion of the paper on Athenian Architecture, commenced at the last ordinary meeting; the History of Llanthony Abbey, in illustration of the Drawings submitted for the Soane Medallion.

The Secretary having read the Report of the Council on the several Essays and Drawings sent in for the Prizes, and the recommendation as to the adjudication of the several medals having been confirmed by the general meeting, the letters bearing the mottos of the successful Essay and Drawings were opened, when the authors appeared to be as follows:—William W. Pocock, Associate, of the Essay on Athenian Architecture; Samuel Sharp, Associate, of York, of the Restoration of St. Mary's Abbey; Mr. George E. Laing, of the Restoration of Llanthony Abbey.

Feb. 26.—J. B. Papworth, V.P. in the chair.—Edward Lapidge was elected a Fellow.

The Council having memoralized the Treasury for apartments in Somerset House or elsewhere, the answer in the negative was read. Amongst the donations laid upon the table was a copy of the third volume of the Antiquities of Sicily, by the Duke of Serradifalco, presented through the Hon. Fox Strangwayes.

Dr. Dickson read his first paper 'On the Qualities of Timbers, and their application to construction.'

Mr. Donaldson, Hon. Secretary, described a sewer built under the Harrow Road by the Great Western Railroad Company.

A communication was read from the Baron Wetterstedt, describing an anticombustive mixture for the saturation of timbers so as to render roofs, floors, &c., less liable to ignition.

MEETINGS FOR THE ENSUING WEEK.

Sat.	Westminster Medical Society	Eight. P.M.
	Artists' Conversazione	Eight.
Mon.	Geographical Society	Nine.
	British Architects	Eight.
	Royal Academy (*Sculpture*)	Eight.
Tues.	Society of Arts (*Ev. Illustrations*)	Eight.
	Architectural Society	Eight.
	Zoological Society, (*Sci. Business*)	½ p. Eight.
	Institution of Civil Engineers	Eight.
	Medico-Chirurgical Society	½ p. Eight.
Wed.	Society of Arts	½ p. Seven.
	Medico-Botanical Society	Eight.
	Literary Fund	Three.
Thur.	Royal Society	½ p. Eight.
	Statistical Society (*Anniv.*)	Three.
	Numismatic Society	Seven.
	Antiquarian Society	Eight.
	Royal Academy (*Painting*)	Eight.
Fri.	Botanical Society	Eight
	Royal Institution	½ p. Eight.

Ashmolean Society, *Oxford.*—*Feb.* 26.—Professor Rigaud delivered a paper 'On some early notices of Steam Navigation.' The first attempt of this kind, which is mentioned by most writers on the subject, is that of Jonathan Hulls in 1736, but there is in the register of the Royal Society a paper in which Papin proposed (February 1709) to apply the Casselian engine to this purpose. Mr. Rigaud gave the whole of this curious document, with Sir I. Newton's report on it, and the remarks by Captain Thomas Savery, on the faults in the construction of the engine. These remarks are contained in two letters to Dr. John Harris, of which copies are preserved in the register of the Royal Society. Mr. Farey is the only person who has been found to notice these facts, and he likewise points out that a similar proposal was made by Papin in the Acta Eruditorum for 1690. It is remarkable that mention is there, also, made of projecting balls by the force of steam. As the first of Savery's letters contains some circumstances connected with his personal history (of which nothing has ever been collected) some few further particulars concerning him were added, which have been recently traced out, and which are either entirely new or not generally known. In this part two unpublished letters were introduced, written by the Marquis of Worcester about his steam engine; and the paper concluded with allusion to the steam vessel said by Captain Slidell to have been constructed at Barcelona in 1543.

MUSIC AND THE DRAMA

DRURY LANE.

This Evening, A NEW WAY TO PAY OLD DEBTS, (*Sir Giles Overreach*, Mr. Charles Kean); and THE MAGIC FLUTE.
On Monday, RICHARD THE THIRD.
Tuesday, HAMLET.
Wednesday, there will be no Performance.
Thursday, RICHARD THE THIRD.

COVENT GARDEN.

This Evening, THE LADY OF LYONS; after which THE ORIGINAL: to conclude with NO SONG, NO SUPPER.
On Monday, CORIOLANUS; and JOAN OF ARC.
Tuesday, THE LADY OF LYONS; and AMILIE.
Wednesday, there will be no Performance.

MORI AND LINDLEY'S FOURTH and LAST CLASSICAL QUARTETT CONCERT, on THURSDAY, March 15th. Mr. Moscheles will play in Beethoven's Grand Pianoforte Trio in B, the Quartetts and Quintetts by Onslow, Mozart, and Beethoven. Signor Dragonetti will play an Obligato Piece on the Double Bass. The Vocal Music will be from 'Euryanthe,' 'Clemenza di Tito,' 'Cosi fan Tutti,' 'Fidelio,' and the 'Last Judgment.'
Single Tickets, 8*s.*; Tickets to admit Two, 14*s.*; to admit Three, 21*s.*: to be had of Mori & Lavenu, 28, New Bond-street, where Programmes may be had.

Philharmonic Society.—Mr. F. Cramer, as leader, and Sir G. Smart, as conductor, presided at the *First Concert*. The orchestra is, this year, strengthened and improved in its proportions by the addition of certain stringed instrument players, and is now magnificent—for England. Still, however, it wants that undeviating precision, which makes the performance of the first-rate French orchestras so satisfactory. As an instance, on Monday evening, parts only of the 'Sinfonia Eroica' went perfectly; and while the 'Jupiter' and the overture to 'Euryanthe' were played to a wish, the accompaniments to all the vocal music were, as usual, offensively loud. The instrumental solos were both of them interesting: the first, as a composition,—it being the pianoforte concerto, brought forward by Mendelssohn at the recent Birmingham Festival. As far as we could judge of this, it appeared an original and most effective work: its opening movement expressive and passionate,—the andante richly melodious,—the finale singularly brilliant; but Mrs. Anderson, though taking her utmost pains on Monday, was utterly unequal to the execution of the task she had aspired to, and went through it with those signs of labour and fatigue, which sadly detract from the pleasure of any instrumental exhibition. If we seem overstrict in our remarks, let it be remembered, in justification, that the Philharmonic is *the* concert of England, and that England is assumed to be progressing in musical taste and intelligence. The second solo, was Mayseder's second concertino, performed by Blagrove. This, as regards brightness and polish of tone, and easy neatness of execution, was a very excellent piece of playing; but there were many portions of the composition into which more sentiment might easily have been thrown, and a want of vigour was to be felt in its working up. Every time, however, that we hear this sedulous young violinist, he appears to have made progress. The vocal part of the Concert was sustained by Mrs. Bishop, Messrs. Hobbs, Phillips, Stretton, and Mdlle. Placci. The latter lady possesses a fair and smooth *mezzo soprano* voice, and if not remarkable for any high excellencies of style, is equally clear of any defects. But the Philharmonic orchestra, from the immoderate strength of its accompaniments, of which we have just complained, is almost the last in which singers can find it pleasant or easy to make their first appearance. The audience was distinguished by the presence of the Duke of Cambridge—and a gentleman who paid his Royal Highness a visit in the course of the evening—and confided his dinner-hour to the whole party of five hundred and fifty subscribers—just in the midst of the interlude, *pianissimo con sordini*, which so fancifully varies the bold, rapid, flashing overture to 'Euryanthe.'

Concerts of Chamber Music.—Just at the time when our columns are stretched to their utmost limit to admit the records of Science, Music claims house-room for her exhibitions so importunately, that,—hospitable hosts as we are,—we are sorely troubled how

to accommodate her. In a very few lines, however, we must express our great satisfaction in Mr. Moscheles' *Third Soirée*,—particularizing, as the gems in the programme, the Sonata appassionata, by Woelfl, and Hummel's septett in D minor. The former took us by surprise: in passion, in grandeur, in solidity, and in grace, where melody is required, we have heard no work coming nearer Beethoven's grand sonatas; and we have to thank Mr. Moscheles for giving us an opportunity of amending our judgment of a composer whom we have hitherto undervalued. The septett—better known—still deserves honourable record here, for the perfection of its performance: the minuetto and scherzo were unanimously *encored*. Miss Dolby, Miss Woodham, Mr. Bradbury, and three other glee gentlemen, were the singers.—Messrs. Blagrove and Company's *Second Concert* was given on Thursday. To us the scheme hardly equalled in interest that of the first concert. It introduced to us, however, a MS. quartett, by Mendelssohn, of singular fineness and intricacy. This composer, perhaps, is too fond in painting cabinet pictures of this class of miniature finish: Beethoven, even in his tiniest works,—*vide* his Bagatelles—shows a large hand as well as a various fancy. The peculiar character, too, of Mendelssohn's chamber-music was exhibited in exaggeration, from the work in question having been introduced to us by players, whose fault is a tendency to diminish rather than to add breadth in their performance. The scherzo was *encored*: but our favourite movement of the four, was the andante, in which there is an echo of one of its composer's pleasantest *capricci*—'The Rivulet.' Besides this quartett, were performed a quintett by Onslow—a pianoforte trio by Mozart, with Mr. Potter at the pianoforte—and Beethoven's Op. 18, (No. 11). Mrs. A. Shaw and Mr. J. Parry, jun. were the singers. In the first act, the lady sung a very charming air, by that cleverest of our amateurs, Mr. Thomson,—exhibiting, towards its close, her superb voice to its utmost compass. We did not hear the songs in the second act, which were by Mendelssohn and Dessauer, but we note their composers' names, that we may commend the framers of these concert schemes, for their determination not merely to play good music, but also to introduce what is new.

MISCELLANEA

Experiment on a Brick Beam.—Some two or three years since Mr. Brunel brought under the consideration of the public, the practicability of building arches without centering, and at comparatively small cost; the materials used being bricks and cement, with occasional ties of hoop iron. A lecture on the subject was delivered at the Society of Arts in January, 1836, (*Athen.* No. 430); and such of our readers as have since visited the Thames Tunnel, may have observed an experimental half-arch erected in the immediate neighbourhood, in illustration of the theory. About the same time we believe, a Beam or Brest-summer was built of like materials by Messrs. Francis, opposite their premises at Nine Elms near Vauxhall, which has ever since held suspended from its centre, a weight of upwards of ten tons. As it had now become necessary, in consequence of the approach of the Southampton Railway, that this beam should be removed, it was resolved first to have its actual strength determined. This was done by placing bars of iron in the scale, and the beam broke asunder with a total weight of 22 tons, 12 hundred-weight, 1 quarter.

America.—Mr. Warden communicates some recent events which have taken place in America, to the French Academy of Sciences; which are,—1st, An earthquake on the 18th and 19th of October, which has almost entirely destroyed Acapulco. 2nd, The discovery, in the province of Truxillo, of a town buried in the earth, probably in consequence of some great volcanic irruption. The natives do not possess any tradition of this fact, which seems to date at a period bordering on that of the establishment of the Spaniards in the country. The catastrophe must have been sudden, and have surprised the inhabitants in the midst of their usual labours. 3rd, The existence of a considerable stratum of white statuary marble, discovered by Mr. Featherstonhaugh in a chain of mountains in the Cherokee country. 4th, On the progress of the canal which is to unite the Atlantic with the Pacific. The cholera, which caused great mortality at Nicaragua, has caused a short interruption to the continuance of this enterprise, says this gentleman; but we know, from good authority, that there is nothing yet done which deserves to be called progress.

N. P. Willis.—This gentleman, it appears, has settled down on the Susquehanna.—Some opinions expressed in one of the New York Journals, as to the probability of his going to Russia, induced a friend to publish in the same paper the following extract from a letter just then received, and which will, no doubt, be read with pleasure by his many friends in England. "For the last month I have been running up and down the courses of four rivers. Pygmalion-like, however, in describing the Susquehanna, I have fallen in love with my theme, and (I am ashamed to confess anything so humdrum and sensible,) I have *bought a farm*. I am just now up to the lips in the respective merits of grain—land v. pasture, hay v. turnips, shade v. sunshine—for the shadows which cool my eye, the farmer says, 'is darn'd bad for the corn!' Would you like an inventory of my dirty acres? First, and most valued, an island, say thirty acres, green as the wings of Thalaba's bird in the snow-desert, rimmed round with gigantic trees, and lying lovingly in the embrace of a divided tributary to the Susquehanna. Next, a meadow of some forty acres, with here and there a gigantic tree, and a fringe of ash, willow and grape vines running along the river. Third, a long terrace of some twenty feet elevation, over which curves the road, and above this, rising in three noble terraces to the summit of the hill, the remainder of my territory—in all some two hundred of as lovely acres as ever were bought with lucre. Let me not forget two matters more, 'appertaining to said lots 1, 2 and 3,' viz. a wood of glorious trees on the summit of the hill, and a delicious brook emerging from the same, and leaping with the grace of a bounding child over my three terraces to the river. What a droll sensation it is to own a brook or a tree! *Entre nous*, I am very much of the Indian's way of thinking, that a man has no more right to appropriate land than light or air. But we must take the world as we find it. So here rest my household gods! And here (please God and my sometimes calenture of travel,) I shall grow my potatoes and live in peace—(I had nearly written it pease.) There are wood-cock on mine island, deer (in the winter) peeping from my wood, and behind me, forests and 'antres vast,' where dwell—settlers, not Hamadryades. You will laugh at all this, but, if there is faith or honour in man,

Mine eyes are sick of this perpetual flow of people.

I have a growing disgust to towns, and a sneaking kindness hourly gaining on me, for hob-nailed shoes, a straw hat and a pony. Did I mention that I had a farm-house, (buried in noble trees,) a man and his men, 'his wife and children three.' I have threatened to sacrifice one of these latter 'pledges,' for every tree cut down without trial by jury—myself on the bench. A man is worth a tree—any day! And so I am *à l'abri—des choses!* (By the way, what a pretty name *A l'abri* would be for a farm!) Cooper lives above me at the head waters of the river, and mayhap will send me a flower of fancy by a Hindoo post, and below me eighty miles, is poetic Wyoming—what I call a pretty parenthesis. I would willingly take a chance for immortality *sandwiched* between Cooper and Campbell. * * * Come to see me when I get my cottage built, and you shall have gun, pony and fishing rod, and a shake-down of straw, and the hen shall lay an egg in your honour."

Prevention of Fire.—M. Letellier proposes, in a memoir presented to the French Academy of Sciences, to steep vegetable substances, such as paper, linen, &c., in a concentrated solution of a glass formed of four parts of potash and one of silex, in order to render them less liable to take fire.

Tic Douloureux.—We learn, from the French scientific journals, that M. Magendie continues to obtain the happiest results from the application of electricity in affections of the senses, particularly in that acute disease termed tic douloureux. He causes the electric current to pass over the nerves by means of needles of platina, placed at greater or lesser intervals. In some instances a single application is said to have been sufficient; and, in one case of dreadful suffering, in which the patient had long been forced, from the pain of speaking, to express his desires by writing, six applications to the nerve entirely removed a malady of three years duration.

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